



## **Programme Structure & Syllabus**

### **M.SC. B.ED. (Economics)**

**Department of Economics  
Central University of Rajasthan**

## Department of Economics

### M.Sc. B.Ed. (Innovative) Economics Programme

DEPARTMENT OF ECONOMICS							
Semester	Type of Course	Course Code	Course Title	L	T	P	C
<b>I</b>	C	ECO 401	Microeconomics I	3	1	0	4
	C	ECO 402	Macroeconomics I	3	1	0	4
	AECC	ECO 403	Mathematical Methods in Economics	3	1	0	4
	AECC	ECO 404	Statistical Methods in Economics	3	1	0	4
	C	ECO 405	Issues in Indian Economy	2	0	0	2
	C	EDU 411	Basics of Education	3	0	0	3
	C	EDU412	Secondary Education in India: Status, Challenges and Strategies	3	0	0	3
<b>Total Credits</b>							<b>24</b>
<b>II</b>	C	ECO 411	Microeconomics II.	3	1	0	4
	C	ECO 412	Macroeconomics II.	3	1	0	4
	AECC	ECO 413	Econometrics	3	1	0	4
	C	ECO414	Trade Theory and Policy	3	1	0	4
	GE	Elective		2			2
	C	EDU413	Learner and Learning	3	0	0	3
	C	EDU414	Teaching Approaches and Strategies	3	0	0	3
<b>Total Credits</b>							<b>24</b>
<b>III</b>	C	ECO 501	Development Economics	3	1	0	4
	C	ECO 502	Economic Growth Theories	3	1	0	4
	C	ECO 503	Public Economics	2	1	0	3
	AECC	ECO 504	Computer Applications in Economics	3	1	0	4
	GE	Elective		2			2
	C	EDU511	Learning Assessment	3	0	0	3
	C	EDU513	Pedagogy of Science / Social Science	4	0	0	4
<b>Total Credits</b>							<b>24</b>

IV	AECC	ECO 512	Research Methodology	3	0	0	3
	C	ECO513	Economics of Human Development	3	1	0	4
	C	ECO514	International Macroeconomics and International Finance	3	1	0	4
	DE	Elective		3	1	0	4
	GE	Elective		2			2
	C	EDU514	Classroom Organization and School Management	3	0	0	3
	C	EDU518	Pedagogy of Mathematics/Physics/Chemistry/Economics	4	0	0	4
	Audit Course	-	Fitness				2*
	Audit Course	-	Societal Interface				2*
Total Credits							<b>24</b>
V	C	EDU611	School Internship-I (6 Weeks)	0	0	06	06
	C	EDU612	School Internship II (14 Weeks)	0	0	12	12
	C	EDU613	Action Research in Schools	0	0	04	04
	C	EDU614	Community Based Participatory Research				02
Total Credits							<b>24</b>
VI	C	ECO614	Dissertation***	0	0	16	16
	DE	Elective		3	1	0	4
	GE	Elective		3	1	0	4
	Audit Course	UHV*		3	1	0	4
Total Credits							<b>24</b>

**Note –**

\* The course on Universal Human Values (UHV), Fitness and Societal Interface are a compulsory course as an audit course which should be cleared by all the students; however, this will not affect the credits of the programme. \*2 Credit Course for Fitness will be spread the first 4 Semester of the Course. 2 Credit Course for Societal Interface will also be spread first 4 Semester of the Course. In Fitness, the students are expected to participate in any physical activity (e.g. Yoga, sports etc.) and in Societal Interface they need to engage in some social activity (e.g. NSS etc.) in the university, right from I Semester to the IV Semester. By participating in both these activities the student will be earning 2 credits for the Fitness and 2

Credits for Societal Interface. Fitness and Societal Interface will be proportionately spread over the four semesters. A faculty coordinator for each of these courses will be appointed at department/university level for better supervision and evaluation purpose.

Online/MOOC courses will be offered to students in lieu of any similar core or elective courses with the consensus and approval department faculties, Board of Studies and School Board.

Total Credit for Integrated M.Sc. B.Ed. Programme is 94+50=144 Credits (excluding Audit course, social interface and fitness courses) which are divided as follows:-

CC - Core Course	41 Credits
Project /Dissertation course***	16
<b>Total Credits of Core Courses</b>	<b>57</b>
DE- Departmental Specific Elective Courses offered by the Department	08 Credits
GE - Generic Elective Courses offered by any department of the University	10 Credits
<b>Total Credits of Elective Courses</b>	<b>18 Credits</b>
<b>AECC – Ability Enhancement Compulsory Course</b>	<b>19 Credits</b>
<b>Total Credits of M.Sc. Economics</b>	<b>94 Credits</b>
<b>Credits from Education Department</b>	<b>50 Credits</b>
<b>Total Credits of Integrated M.Sc. B.Ed. Economics</b>	<b>144 Credits</b>
Fitness *	02 Credits
Societal Interface *	02 Credits
UHV – Audit Course *	04 Credits

#### List of Open Elective Courses offered by the Department

Sr. No	Course Code	Course Name	Course Credit
1	ECO 445	Economics of Money Banking and Financial Development in India	4
2	ECO 551	Financial Economics	4

#### List of Departmental Specific Elective Courses offered by the Department

Sr. No	Course Code	Course Name	Course Credit
1	ECO421	Agricultural Economics	4
2	ECO422	Environmental Economics and Policy	4
3	ECO423	Political Economy	4
4	ECO424	Labor Economics	4
5	ECO425	History of Economic Thought	4
6	ECO521	Monetary Economics	4
7	ECO522	Economics of Mathematical Finance	4
8	ECO523	Behavioral Economics	4

9	ECO524	Advanced Econometrics	4
10	ECO525	Economics of Industrial Organization	4
11	ECO526	Game Theory	4
12	ECO527	Economics of Environmental Issues and Sustainable Development	4
13	ECO528	Health Economics	4
14	ECO529	Natural Resource Economics	4
15	ECO530	Introduction to Environmental Valuation	
16		Any Other MOOC/ Online Course as approved by Board of Studies & School Board	4

Programme Outcome:

1. To gain an understanding of core economic principles and how they apply to a wide range of real-world issues.
2. To analyze relevant economic literature, concretize economic problems, and have insight into how you may draw the connection between theory and empirical conditions
3. To use economic models and communicating both the underlying assumptions of these models, as well as the results from theoretical and empirical model-based analysis.
4. To analyze existing economic models and evaluate their relevance for theoretical and practical problem solving
5. To use relevant models and methods, independently but under supervision, and undertake applied work and research projects in economics
6. To conduct research to evaluate important questions in social sciences by reviewing academic literature, collecting data, and applying econometric methods.

# Core Courses

<b>Course: Microeconomics I (ECO 401)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Student must have completed Bachelor's Degree	
2	Must Have aptitude for microeconomics	
Course Objective:		
	The Course examines how individuals and firms make decisions by weighing up preferences, costs and benefits, and how the interaction of their decisions leads to utility-maximization, market and social outcomes. The model of market supply and demand is employed to examine the effects of taxes, subsidies and other government interventions in market activity. The implications of different market structures, including perfect competition and monopolistic are examined.	
Course Outcomes: The students will be able to		
1	Demonstrate an understanding of the concepts of utility functions, demand functions and preference structure to compare the choices of consumer	
2	Demonstrate the ability to apply optimization techniques to decisions made by consumers and firms	
3	Students will be able to demonstrate an understanding of producer choice, including cost and production function analysis	
4	Demonstrate an understanding of how markets work to allocate resources and the optimal individual decision making that underlies market outcomes	
5	Identify perfect competition, monopoly and monopolistic market structures and discuss their implications for resource allocation	
6	Explain the advantages and potential shortcomings of markets, discuss the conditions under which markets do and do not work well	
Course Content:		
UNIT I	Theory of Consumer I: Preference relations and their properties, Consumption Decision (Optimizing Behaviour of the consumer under alternative preference structures- Utility, Indifference curves and revealed preference). Derivation of demand functions: Perfect Substitute, perfect compliments and quasi-linear utilities	10 hrs
UNIT II	Theory of Consumer II: Indirect Utility and Expenditure Functions. Comparative statics of the consumer's decision, income and substitution effect –Hicks and Slutsky analysis Slutsky Equation, derivation of ordinary and compensated demand function, Demand elasticity. Consumer's surplus,	10 hrs
UNIT III	Theory of Production and Costs I : The Production function- Assumptions, Variation in Scale, Variation in input proportions, the multi-product firm and production possibility set. Minimization of costs in the long and the short run,	10 hrs
UNIT IV	Theory of Production and Costs II : Derivation of cost functions from production functions; Cobb-Douglas, CES, and Trans-log production functions and their properties;	10 hrs
UNIT V	Perfect competition — short run and long run equilibrium of the firm and industry, supply curve; Monopoly — short run and long run equilibrium, price discrimination, welfare aspects, monopoly control and regulation; Natural Monopoly	10 hrs

UNIT VI	Monopolistic competition — general and Chamberlin approaches to equilibrium, equilibrium of the firm and the group with product differentiation and selling costs, excess capacity under monopolistic and imperfect competition,							10 Hrs
Internal Assessment:								
CIA 1	Unit I, Unit II							
CIA 2	Assignment submission and/or presentation							
Text Books:								
1. Varian, H. (2005), <i>Intermediate Microeconomics: A Modern Approach</i> W.W. Norton, New York.								
2. Varian, H. (2004), <i>Microeconomic Analysis</i> , W.W. Norton, New York.								
Reference Books:								
1. Gravelle, H and Ray Rees (2004), <i>Microeconomics</i> , 3 <sup>rd</sup> edition, Prentice Hall Longman London.								
2. Sen, A. (1999), <i>Microeconomics : Theory and Applications</i> , Oxford University Press, New								
3. Microeconomic Theory: Basic Principles and Extensions (Upper Level Economics Titles)Cengage; 11 edition (2014)								
4. Roy Choudhary, K Microeconomics, Vol 1.								
5. Nicholson, W., Microeconomic Theory: Basic Principles and Extensions, eighth edition, South Western Thomson Learning, 2002								
PO-CO Compliance Matrix								
	PO1	PO2	PO3	PO4	PO5	PO6		
CO1	3	2						
CO2	2	2		3				
CO3	3	2		3				
CO 4	2			3				
CO 5	2							
CO 6	2							
*1: Low, 2: Medium, 3: High								

<b>Course: Macroeconomics I (ECO 402)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Student must have completed Bachelor's Degree	
2	Must Have aptitude for macroeconomics	
3	Must possess analytical thinking	
Course Objective:		
	This course Introduces students to the main classes of models in modern macroeconomics. The first half of the course will be aimed at providing students with astound knowledge of modern macroeconomic theories of income and employment determination while the second half will deal with the theories of consumption and investment along with measures to analyze unemployment and inflation including contrasting economic views on unemployment. Final part of the course will mainly focuses on integration of goods and money market and the use of fiscal and monetary police to achieve economic goals.	
Course Outcomes: The students will be able to		
1	Demonstrate the problem of macroeconomic aggregations using partial and general equilibrium analysis	
2	Examine how the economy behaves at the aggregate level and how national income is measured and determined both in closed and open economy context	

3	Demonstrate various theories explaining the major factors determine consumption expenditure on final goods and services.
4	Define money and describe the theories on money demand and money supply including the process of money creation by the banking system and the role of the central bank.
5	Apply macroeconomic measures to analyze unemployment and inflation including contrasting economic views on unemployment.
6	Explain the components of aggregate economic activity, fluctuations and effects for the national economy and how fiscal policy is used to achieve economic goals.

Course Content:

UNIT I	Introduction to Macroeconomics: Why and how to study macroeconomics; Scope of macroeconomics, Macroeconomic Variables- Stocks and Flows, Problem of Aggregation: Macroeconomic Equilibrium. National Income Accountings. Macroeconomic Debate (Introductory):	10 hrs
UNIT II	Classical Macroeconomics: The Economy in the long run; Keynesian approach of Macroeconomics. Models of Income and Employment Determination: An Overview. Walrasian interpretation of Keynesian unemployment; New Keynesian Interpretation, Post-Keynesian Interpretation. New classical economics.	10 hrs
UNIT III	Consumption Function and Investment Function: Keynes consumption theory, Kuznet's Puzzle, Life Cycle Hypothesis, Permanent Income Hypothesis, Random Walk Hypothesis, Keynesian Theory of Investment, Accelerator principles, Neo-Classical and New Classical Theories of Investment.	10 hrs
UNIT IV	Money and Inflation: Demand for Money- Friedman, Baumol, Tobin, Patinkin's Real Balance Effect, Issues regarding endogenous and exogenous supply of money,	10 hrs
UNIT V	R.B.I.'s Approach to Supply of Money Demand-Pull and Cost-Push Inflation, Phillips Curve Controversy, Natural Rate of Unemployment-Adaptive expectations and Rational expectations models of inflations. The quantity theory of money.	10 hrs
UNIT VI	Economy in the short-run: Goods markets and the IS curve, Financial or money market and the LM curve, Goods market and money market together-The IS-LM model- closed economy case; Fiscal policy and monetary policy under alternative supply assumptions, Policy Mix. Aggregate demand and supply.	10 hrs

Internal Assessment:

CIA 1	Unit I, Unit II	
CIA 2	Assignment submission and/or presentation	

Text Books:

1. Dornbusch Rudi, Fischer, Stanley and Startz Richard. *Macroeconomics*, Tata McGraw-Hill Publishing Co. Ltd.

Reference Books:

2. Mankiw Gregory N. *Macroeconomics*, Worth publishers
3. Blanchard Olivier. *Macroeconomics*, Prentice Hall

PO-CO Compliance Matrix

	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	3	2						
CO2	2		2	3	2				
CO3	2	2							
CO 4	1	2							
CO 5			3	2	2				
CO 6	2	2							

\*1: Low, 2: Medium, 3: High

<b>Course Name: Issues in Indian Economy (ECO405)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 2
		Total: 2
Course Pre-requisites:		
1	Student must have completed Bachelor's Degree	
2	Must possess knowledge of elementary economics	
Course Objective:		
	The course introduces the students to the various dimensions of the Indian Economy and the contemporary Problems of Indian Economy. This course is also aims to provide the basic information regarding the developmental strategies and structural adjustment reform measures that countries across the world adopt to eradicate the poverty and unemployment, to reduce inequalities and regional imbalances. The course also focuses on the changing role of state, markets and civil society institutions with respect to economic development.	
Course Outcomes: The students will be able to		
1	Understand the Indian economy better and will get some idea about the problems faced by the Indian economy	
2	Demonstrate the development process in India after independence	
3	Develop a perspective on the external sector reforms and industrial sector reforms undertaken in global economies including in India for last three decades	
4	Demonstrate various structural adjustment programs and reform measure that the government of India has been initiated to eradicate poverty and unemployment, to reduce inequalities and regional imbalances since Independence	
5	Understand what the primary measures of inflation in India are and be able to assess the impact of inflation on inflow and outflow of foreign capital India.	
Course Content:		
UNIT I	Post 1991 development in global economies; Trade and exchange rate liberalization, market oriented reforms, Capital flows from World Bank and IMF. Structural adjustment programmes and conditionalities.	10 hrs
UNIT II	Exchange rate and trade policy changes, Industrial policy and setting up of regulatory structures like SEBI, TRAI, IRDA, etc.	10 hrs
UNIT III	Infrastructure sectors. Investment requirements of roads, power, ports and other infrastructure sectors private-public partnership mode SMEs and Informal sector Labour market reforms - Exit policy and liberalization of labour markets.	10 hrs
UNIT IV	Rural Livelihood: Livelihoods and Employment: Structure of rural poverty, Food security and the Public Distribution System; Employment Security- MGNREGA	10 hrs
UNIT V	Economic development and institutions – Role of state, markets and civil society institutions.. Characteristics of Indian markets and need for state interventions. Growth of Indian economy since independence – Sectoral growth rates and changing structure. Poverty trends. Inequalities and regional imbalances.	10 hrs
UNIT VI	Growth of domestic savings and investment. Role of foreign capital - borrowing, equity and direct investment. Technology inflows. Monetary policy issues: Price level and inflationary trends – Composition of wholesale price index. Retail prices.	10 hrs
Internal Assessment:		
CIA 1	Unit I, Unit II	
CIA 2	Assignment submission and/or presentation	
Text Books:		
1. Uma Kapila, Indian Economy: Issues in Development & Planning and Sectoral Aspects		

Reference Books:									
2. Ray, Debraj; Development Economics, Oxford University Press, 2002.									
3. To be supplemented by scholarly readings from Economic and Political Weekly, Indian Economic journal and Indian Economic Review									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	3	3							
CO2	1	2				1			
CO3	2	2				1			
CO4	2	2		1	1	1			
CO5	1	2	1	2	1	1			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Microeconomics II (ECO411)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Student must have the knowledge of intermediate microeconomics	
2	Must possess knowledge of elementary mathematics	
Course Objective:		
	The Course will selectively cover recent developments in macroeconomics of fluctuations, open economy, policy, and micro-foundations. The focus will be on substantive issues and applications of basic principles. The workhorses of macroeconomic issues will be applied to analyse economy-wide topics of current interest. Familiarity with the material covered in texts as mention in Macroeconomics-I is assumed.	
Course Outcomes: The students will be able to		
1	Develop the intellectual ability of explaining some core economic issues.	
2	Demonstrate how the economy works at different situations both in short-run as well as long-run.	
3	Apply the economic theories the contemporary economic and social issues	
4	Develop skills of synthesising the argument found in academic research and also in media.	
5	Develop skill of logical economic arguments.	
Course Content:		
UNIT I	Oligopoly & Game Theory: Non-collusive (Cournot, Bertrand, Edgeworth, Non-collusive (Cournot, Bertrand, Edgeworth, Chamberlin, kinked demand curve and Stackelberg's solution) and collusive (Cartels and mergers, price leadership) models; Price and output determination under monopsony and bilateral monopoly;	10 hrs
UNIT II	Game Theory: Nash Equilibrium, Prisoners' Dilemma, Dominant Strategies, Repeated Games, Zero-Sum Game, Mixed Strategies	10 hrs
UNIT III	Theory of Distribution: Neo-classical approach — Marginal productivity theory; Product exhaustion theorem; Elasticity of technical substitution, technical progress and factor shares; Theory of distribution in imperfect product and factor markets;	10 hrs
UNIT III	General Equilibrium: Core of Exchange economy; Market exchange; General equilibrium models of exchange and production; Existence of competitive equilibria; Uniqueness and Stability of Competitive equilibrium;	10 hrs
UNIT IV	Welfare Economics : First and Second Fundamental Theorems of Welfare Economics. Pareto Criterion; Kaldor Criterion; Scitovsky Criterion; Social welfare function; Compensation	10 hrs

	principle; Theory of Second Best, Arrow's impossibility theorem; Rawl's theory of justice,								
UNIT VI	Externalities: Market Failure: Market failure; Sources of market failure and their implications - Externalities; Public Good; Asymmetric Information.		10 hrs						
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Varian, Hal R., Intermediate Microeconomics, 1990, 5th Edition, W.W. Norton and Company (Varian -5).									
2. Varian, Hal R., Microeconomic Analysis, 1992, 3rd Edition, W.W. Norton and Company (Varian -3).									
3. Gravelle, H and Ray Rees (2004), <i>Microeconomics</i> , 3 <sup>rd</sup> edition, Prentice Hall Longman London.									
Reference Books:									
1. Modern Microeconomics 2e, Koutsoyiannis 2nd Revised edition Edition 2nd Publisher: Macmillan,									
2. Nicholson, W., Microeconomic Theory: Basic Principles and Extensions, eighth edition, South Western Thomson Learning, 2002									
3. Mas-Collel, Whinston and Green, Micro-economic Theory, OUP, 1995									
4. McKenna, C.J., 1986, The Economics of Uncertainty, Wheat Sheaf Book (Mckenna) Harry Townsend (ed.), 1965, Price Theory, Penguin Education (Townsend									
5. Russell, R.R. and M. Wilkinson, 1979, Microeconomics: A Synthesis of Modern and Neo-Classical Theory, John Wiley, New York. (Russell)									
6. Layard, P.R.G and Walters, A.A., 1978, Microeconomic Theory, McGraw Hill (Layard).									
7. Henderson & Quandt, 1988, Microeconomic Theory - A Mathematical Approach, McGraw Hill. (Henderson).									
8. Sen, A. (1999), <i>Microeconomics : Theory and Applications</i> , Oxford University Press, New									
9. Microeconomic Theory: Basic Principles and Extensions (Upper Level Economics Titles) Cengage; 11 edition (2014)									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	2	2	2						
CO3			3	3	3				
CO4					3	3			
CO5	2	2	3			2			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Macroeconomics II (ECO 412)</b>							
<b>TEACHING SCHEME</b>		<b>EXAMINATION SCHEME</b>			<b>CREDITS ALLOTTED</b>		
Theory: 4 hrs per week		End Semester Examination: 60 marks Internal Assessment: 40 marks			Theory: 4		
					Total: 4		
Course Pre-requisites:							
1	Student must have completed the knowledge of intermediate macroeconomics and pre-requisite applications of macroeconomics						
2	Aptitude and skills in Quantitative and mathematical Analysis						
Course Objective:							
	The Course will selectively cover recent developments in macroeconomics of fluctuations, open economy, policy, and micro-foundations. The focus will be on substantive issues and applications of basic principles. The workhorses of macroeconomic issues will be applied to analyze economy-wide topics of current interest. Familiarity with the material covered in texts as mention in Macroeconomics-I is assumed.						
Course Outcomes: The students will be able to							
1	Demonstrate how the economy works at different situations both in short-run as well as long-run.						
2	Apply the economic theories the contemporary economic and social issues.						
3	Understand how the fiscal policy makers and the monetary policy makers interact and also they can able to analyze the policy decision.						
4	Improve to make economic policy debate.						
Course Content:							
UNIT I	Macroeconomics in the Short Run: Fluctuations of Macroeconomic variables, The Stylized facts. Open Economy Issues: Open economy IS-LM and IS-MP, the Mundell-Flemming Model,					10 hrs	
UNIT II	Macroeconomic Policy and Exchange Rate Regimes. Asset Price Volatility, Interest rate and Exchange rates, Crisis models and Strategic interactions.					10 hrs	
UNIT III	Micro-foundations of Real and Nominal Rigidities: Determination of Aggregate supply curve, Wage-Price rigidities.					10 hrs	
UNIT IV	Imperfect Information, Imperfect Competition and Asymmetric Information, Solving for Rational Expectation Equilibrium, Coordination Failure					10 hrs	
UNIT V	Macroeconomics in the Medium Run: Ricardian Equivalence, the Open economy consumption smoothing, and foreign capital, the firm; Tobin's q theory of investment, Business Cycle Dynamics-nominal and real.					10 hrs	
UNIT VI	Macro Policy: Coordination of Fiscal and Monetary Policy, Rules versus Discretion, Credibility, Commitment devices, Monetary Transmission Mechanism and Targeting, Policy debates.					10 hrs	
Internal Assessment:							
CIA 1	Unit I, Unit II						
CIA 2	Assignment submission and/or presentation						
Text Books:							
1. Romer D. <i>Advanced Macroeconomics</i> . McGraw Hill Book Company: London,							
2. Blanchard Olivier & Fischer Stanley. <i>Lectures on Macroeconomics</i> . Cambridge: MIT Press,							
Reference Books:							
3. Blanchard Olivier. <i>Macroeconomics</i> , Prentice Hall							
4. Heijdra B., van der Ploeg F. <i>Foundations of Modern Macroeconomics</i> , Oxford University Press							
PO-CO Compliance Matrix							
	PO1	PO2	PO3	PO4	PO5	PO6	

CO1	2	2						
CO2			3	3	2	2		
CO3	2	2	2	1				
CO4				3	3	3		
*1: Low, 2: Medium, 3: High								

<b>Course Name: Trade Theory and Policies (ECO414)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Student must have completed the elementary knowledge of Macroeconomics, and Microeconomics	
Course Objective:		
	The course examines the gains from trade, the determinants of patterns of international trade and the effects of trade on income distribution, the relationship between trade, and economic growth. The course relies predominantly on a standard collection international trade models to understand the motivations behind modern trade policies. Course employs the understanding of classical, neo-classical and modern trade theories and its implications for economic welfare and gain. Course develops the understanding of analyzing the partial and general equilibrium effect of trade policies and theory of custom union. This course is also discussing about the recent issues of WTO and regional trade agreements.	
Course Outcomes: The students will be able to		
1	Compare at the level of formal analysis, the major models of international trade and be able to distinguish between them in terms of their assumptions and economic implications.	
2	Develop the basic understanding of trade theories and its interpretation and implication on world economy	
3	Analyze the partial and general equilibrium effect of trade policies, a) trade policy instruments such as tariffs, quotas, export subsidies, (b) retaliatory measures such as anti-dumping duties and countervailing duties and (c) the creation of regional trading arrangements such as free trade areas, customs unions and common market.	
4	Distinguish and critically analyze the main arguments for protection and conversely be able to critically evaluate the relevance and realism of arguments for free trade, taking into account the costs and benefits of trade policy measures on different sections of the community and the implications for the formulation of trade policy.	
5	Analyze the partial and general equilibrium effect of theory of custom union	
6	Analyze the effects of Immiserizing growth and intra-industry trade	
7	Identify major recent developments in the world trading system, and be able to critically analyse the WTO negotiations and regional trading arrangements.	
8	Analyze the country's gain in free, restricted and no trade situations	
9	measure the economic welfare and gain of participating international trade	
10	Measure the trade gain through offer curves, trade indifference curve and production possibility curves	
Course Content:		
UNIT I	Classical trade theories on comparative advantage, Refinements of Comparative Advantage, gains from trade, Opportunity cost. Incomplete specialization. Theory of opportunity Cost. Free trade is better than no trade, Free trade is better than restricted trade, restricted trade is better than free trade	10 hrs
UNIT II	Heckscher-Ohlin factor endowment model. Factor price equalization Theorem. Stolper-Samuelson theorem. Specific Factor Model, terms of trade and offer curve analysis,	10 hrs

	empirical approaches and paradox								
UNIT II	Factor intensity reversals and pattern of trade, Intra and inter industry trade. Imperfect Competition: Imperfect competition, homogeneity: Krugman, Trade and growth; Rybczynski theorem, Immiserizing growth; endogenous growth with homogeneity and heterogeneity.		10 hrs						
UNIT IV	New Trade Theories: Vernon, Posner, Krugman, Kravis		10 hrs						
UNIT V	General and partial equilibrium effects of tariffs on welfare. Arguments for protection, Political economy of trade agreements and upcoming issues of protections, Effective rate of protection. Non tariff barriers: Quota, Voluntary Export Restraints, Countervailing duties and export subsidies, dumping. Effects of tariffs on factor prices.		10 hrs						
UNIT VI	Theory of customs union – ‘second best’ argument – trade creation and trade diversion, General equilibrium effect of custom union Stages of integration Regional trade groupings, GATT and WTO, Regional trade blocks		10 hrs						
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Dominick Salvatore, International Economics: Trade and Finance, John Wiley International Student Edition, 10th edition, 2011.									
Reference Books:									
2. Pugel, T.A.( 2008), International Economics, 13 <sup>th</sup> Edition, Tata Mcgraw hill publishing Co, New Delhi.									
3. Bhagwati, J. N., A. Panagariya and T.N. Srinivasan (1998), Lectures on International Trade, OUP,NewDelhi, Second Edition.									
4. Krugman, P.A. and M Obstfeld (2003), International Economics: Theory and Policy, Sixth Ed.									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	3	3		1	1				
CO3			2	2					
CO 4		2	2	2	2				
CO5		2		2					
CO6		2		2					
CO7	2	2		2					
CO8	2	2	1	1					
CO9			2	2					
CO 10			2	2					
*1: Low, 2: Medium, 3: High									

<b>Course Name: Development Economics (ECO501)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Student must have completed the knowledge of Macroeconomics, and Economic Growth Theories	
Course Objective:		
	This course familiarizes the students with emergence of the field of development economics in the context of international events. It aims to focus on various development theories and approaches in dealing with underdevelopment and pressing issues of poverty and inequality, with the concepts and measurement.	
Course Outcomes: The students will be able to		
1	Analyze the shift of focus from economic growth as a single dimensional concept to economic development which is a multi-dimensional concept.	
2	Demonstrate familiarity with some central themes and issues of economic development.	
3	Demonstrate the understanding of the difference between growth and development, major development and growth theories, the measurement of inequality, significance of agriculture in developing countries, poverty and population issues facing the world, international trade, and importance of foreign aid.	
4	Examine the factors responsible for perpetuation of the conditions of underdevelopment in same economies.	
5	Differentiate different measures of poverty and inequality and pros and cons of different measurement.	
6	Review the policy implications of these key development economic theories	
7	Critically analyze how the theory of development economics impacts upon practical implementation macro development policies in varying local and global contexts	
Course Content:		
UNIT I	Concept of Development – From GDP per capita to holistic indicators.PPP and international differences. International poverty line and estimates of poor. Factors of development. Colonialism and dependency theories.	10 hrs
UNIT II	Schumpeter –Innovation, enterprise and process of ‘creative destruction’. Rejection of trade as the ‘engine of growth’. Nurkse and Prebisch arguments. Structural changes: Kuznets analysis of structural change.	10 hrs
UNIT III	Concept and Measures of Poverty-, Pareto Distribution, Head- Count Ratio, Income Gap Ratio, FGT Index. Concept and Measures of Inequality – Lorenz Curve and Gini coefficient, Issues in composite Indices, Problems of Aggregation. Inequality and Growth- the inverted U curve hypothesis, Inequality and growth –Interrelationships.	10 hrs
UNIT IV	Role of capital formation – vicious circle arguments, Rostow’s stages of development, Kuznet’s economic history analysis of characteristics of development.	10 hrs
UNIT V	Capital formation and allocation of investment- Balanced and unbalanced growth theories. Rosenstein –Rodan and Hirschman. Denison’s growth accounting – Contribution of labour, capital and Technology.	10 hrs
UNIT VI	Role of agriculture. Dual economies and surplus labour argument, Ranis-Fei Model, Unemployment- efficiency wage theory as an explanation for wage rigidity and involuntary unemployment, Collusive theory of unemployment. Population growth and critical Minimum Effort. Demographic transition. Demographic dividend.	10 hrs
Internal Assessment:		
CIA 1	Unit I, Unit II	
CIA 2	Assignment submission and/or presentation	
Text Books:		

1. A.P. Thirlwall: Growth and Development, ELBS.									
2. D Ray: Development Economics, OUP.									
Reference Books:									
3. S. Ghatak: Introduction to Development Economics, Rutledge.									
4. Kaushik Basu: Analytical Development Economics The Less Developed Economy Revisited, OUP.									
5. D Lal; The Poverty of Development Economics, OUP.									
6. G. Meier: Leading issue in Economic Development (4 <sup>th</sup> Edition),OUP.									
7. Meier and Rauch: Leading Issues in Economic Development (8 <sup>th</sup> Edition),OUP									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1		3	2	2					
CO2	2	2							
CO3	3	3							
CO 4			2	2					
CO5	2	2	1						
CO6		3			2	2			
CO7	2	3			2	2			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Economic Growth Theories (ECO 502)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Student must have completed the knowledge of Macroeconomics	
Course Objective:		
	This course offers an introduction to the theories and models of economic growth. It will use these models to shed light both on the process of economic growth at the world level and on sources of income and growth differences across countries. Topics covered include income distribution and economic growth, where Kaldor and Pasinetti's work will be mentioned, and the standard economic growth model of Solow. Macroeconomic questions addressed include: Why are some countries rich and some poor? What differences among countries can explain economic success and failures? This course is aimed at Economics students on the Mathematical Pathway and homework questions will typically involve solving problems etc. Course also employs the knowledge of endogenous growth models of AK, Lucas and Romer and its interpretation within theoretical model.	
Course Outcomes: The students will be able to		
1	Demonstrate a deep analytical understanding of exogenous and endogenous growth models	
2	Understand the main insights into the economic growth process that economists have gleaned over the past half century.	
3	Solve and manipulate a variety of simple models in economic growth.	
4	Identify applications and limitations of the models learned.	
5	Develop an understanding of the evolution of growth models;	
6	Display a good grasp of those factors that contribute to or inhibit economic growth (population, capital, technology, human capital, and institutions);	
7	Develop the understanding of Solow growth model and its applications in real life	
8	Understand the conditional and unconditional convergence in growth models	

9	Develop the understanding of role of money, wealth, saving, physical capital, income distribution, and role of initial per capita, in economic growth.							
Course Content:								
UNIT I	Problem of Economic Growth- Problem of Economic Growth and the General Solution; Growth Equilibrium; Harrod –Domar Model of Economic Growth							10 hrs
UNIT II	Ms. Joan Robinson and Concept of Golden Age and Golden Rule of Accumulation; Models of Optimum Economic Growth- Keynes-Ramsey Rule, Cass-Koopmans Model							10 hrs
UNIT III	Neo-Classical Models of Growth: Growth model of R.M. Solow, Instability & Convergence debate,							10 hrs
UNIT IV	Neo-Keynesian Models of Growth & Distribution- Kaldor and L. Pasinetti Technology and Growth- Hicks, Harrod and Solow- Neutrality of Technical Change, Embodied and Dis-embodied Technical Change,							10 hrs
UNIT V	Growth Accounting. Money and Growth- James Tobin and H.G. Johnson;							10 hrs
UNIT VI	Endogenous Growth Models- AK Models, Lucas Model of Human Capital, Romer Model of Endogenous Innovation.							10 hrs
Internal Assessment:								
CIA 1	Unit I, Unit II							
CIA 2	Assignment submission and/or presentation							
Text Books:								
1. Jones C.I., “Introduction to Economic Growth” W.W. Norton & Company, New York								
2. H.G. Jones, “An Introduction to Modern Theories of Economic Growth” McGraw-Hill Book Company								
3. Barro, Robert J. and Xavier Sala-i-Martin, Economic Growth, McGraw-Hill,								
Reference Books:								
4. Romer, David, Advanced Macroeconomics, New York: McGraw-Hill Co.,								
5. Sen, A.K.,ed.(1970) Growth Economics, Penguin Books								
6. Blanchard, O. and Fischer, S. 1989. Lectures on Macroeconomics.								
PO-CO Compliance Matrix								
	PO1	PO2	PO3	PO4	PO5	PO6		
CO1	3	3						
CO2	2	2						
CO3			3	3				
CO4			3	3				
CO5			3	3				
CO6	3	3						
CO7			3	3	2	3		
CO8	2	3						
CO9	3	3						
*1: Low, 2: Medium, 3: High								

<b>Course Name: International Macroeconomics and International Finance (ECO502)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4

		Total: 4
Course Pre-requisites:		
1	Student must have completed the knowledge of Macroeconomics, and International Trade Theory and Policy	
Course Objective:		
	This course links the fields of macro-economics and finance in open economy. It provides coverage of economic principles that underlie the operation of macroeconomics tools and other financial institutions. The roles of balance of payment adjustment mechanism in monetary, portfolio, extended portfolio, with fixed and flexible exchange rate system are examined. The course aims at providing students with the means to analyse monetary questions and institutions. It is not a course designed to further technical expertise in the instruments used in financial markets but covering the theories of uncovered interest arbitrage, swapping, hedging and speculations. It's also targeting the applications of forward, future, open, and spot market operations. Theories related to internal and external equilibrium of the economy will be discussed. The course has aim to target the understanding of international monetary markets and its fluctuations with macroeconomic policy decisions such as coordination of fiscal and monetary policy, optimum currency area, fixed and flexible exchange rate system, domestic pricing, central and commercial bank actions, aggregate demand and supply, interest rate and expectations.	
Course Outcomes: The students will be able to		
1	Develop the understanding of macroeconomic policy decisions and its impact on open economy and balance of payment adjustments.	
2	Develop the Understanding of aggregate demand and supply application with fixed and flexible exchange rate system to discover the open market fluctuations.	
3	Demonstrate the ability to adjust internal and external disequilibrium with fiscal and monetary policy coordination	
4	Develop the understanding of financial market of swap, hedging, future, forward, open, and speculations	
5	Understand how foreign trade multiplier works and creates repercussion effects in open economy	
6	Understand the international financial institution, dollarization and reserve currency issues and their impact on domestic and open economy.	
7	Understanding of portfolio and asset market with fixed and flexible exchange rate system	
8	Ability to use balance of payment adjustment mechanism in absorption, devaluation and monetary decisions of a country	
9	Understand the quantitative applications and derivations of theories in practice	
Course Content:		
UNIT I	International Macroeconomics- Prices and Output in an open economy. Long-run adjustment mechanisms. Automatic adjustment – foreign trade multipliers. Fiscal and monetary policy under flexible exchanges. Interdependence and Multi-lateral co-ordination.	10 hrs
UNIT II	Balance of payments. Current account and fiscal deficit. Capital account. Disequilibrium and adjustment. Elasticity conditions for adjustment in trade account.	10 hrs
UNIT III	Currency markets transactions. Currency standards, convertibility and reserve currencies. Exchange Rates. Purchasing power parity. Interest rate parity. Nominal, real and effective exchange rates. Fixed and flexible exchange rates.	10 hrs
UNIT III	Exchange controls. Short-run and long run capital movements. Hedging, speculation and hot money transfers under capital account convertibility. Implication of capital flows—Mundell-Fleming Model, currency crisis and contagion.	10 hrs
UNIT IV	Money and the role of banks. EU and monetary integration. Dollarization. Optimum currency areas, Monetary,	10 hrs
UNIT VI	Banking and foreign exchange regulations. The International Monetary Fund. Reforming the international institutional architecture. China and reserve currency issues.	10 hrs
Internal Assessment:		
CIA 1	Unit I, Unit II	
CIA 2	Assignment submission and/or presentation	
Text Books:		
1. Dominick Salvatore, <i>International Economics: Trade and Finance</i> , John Wiley International Student Edition, 10th edition, 2011.		
Reference Books:		

1. Bhagwati, J. N., A. Panagariya and T.N.Srinivasan(1998), <i>Lectures on International Trade</i> , OUP, New Delhi, Second Edition.									
2. Krugman, P.A. and M Obstfeld (2003), <i>International Economics: Theory and Policy, Sixth Ed.</i>									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	2	3							
CO3	2	3	2	2					
CO 4	2	2							
CO5	2	3		2					
CO6	2	3	2	2					
CO7	3	3							
CO8	2	2	2	2					
CO9			3	3	2	2			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Public Economics (ECO503)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 3
		Total: 3
Course Pre-requisites:		
1	Student must have completed the knowledge of Macroeconomics, and Microeconomics	
Course Objective:		
	The main goal of the course is to provide students with the necessary skills to formulate public policies with an understanding of their economic implications. Topics covered include welfare economics, market failures, fiscal tools (budget, taxes, expenditure, public debt, and fiscal federalism), regulations, and political economy.	
Course Outcomes: The students will be able to		
1	Learn the basic tools, concepts and models necessary for competence in key topics in Public Economics.	
2	Understand the role that prices play in a market economy, both as a method of allocating resources in the private sector, and as a guide for public policy.	
3	Understand the twin objectives of efficiency and equity, and explain why there is often a trade-off between these two objectives.	
4	Understand the connection between relative prices and notions of efficiency.	
5	Discuss the use of taxes, public expenditures, public debt, and federal finances for promoting socially efficient resource allocation and a desirable income distribution. Also, go through rigorous theories related to these fiscal tools.	
6	Analyze policy challenges facing governments around the world and learn about potential solutions to these challenges as well as obstacles in implementing them.	
7	Learn a set of perspectives into the economic activities of the government sector that will help them become enlightened participants - engaged citizens, voters, politicians, and/or civil servants - in society.	
8	Discuss critically key issues in public economics, informed by recent research.	
9	Present a coherent argument orally and in writing on topics in public economics.	
Course Content:		
UNIT I	Market Failure and the rationale for Government Intervention. Alternative Classifications of Public Goods, Optimal Provision of Public Goods, Private Provision of Public Goods, Nash-Cournot Solution, Preference Revelation, Samuelson and Lindahl Equilibrium, Club Goods Model. Externalities: Positive and Negative, Externalities and Social Costs. Pigouvian Tax, Coase Theorem.	10 hrs

UNIT II	Fiscal Policies and instruments: Taxation: Efficiency, Equity, Cost of Collection and Compliance; Trade-off between Efficiency and equity; Effect of Taxes on labor supply and Savings-Income, commodity and wealth tax.	10 hrs							
UNIT III	Laffer's Curve, Direct and indirect taxes. Tax Reforms in India. Non-Tax Fiscal Instruments: Profit and Dividends, Rents and Royalties, Non-revenue Effects of Non-Tax Instruments	10 hrs							
UNIT IV	Public Debt: Public Debt and External Debt, Theories of Public Debt, Ricardian Equivalence, Debt Management Techniques. Budget and Fiscal Policy: Capital and Revenue Accounts, Dynamic Nexus between Two Accounts, Budget Deficits, Theories of Deficits, Indian Budget Deficits: Union and States.	10 hrs							
UNIT V	Public Expenditure: Theories of Public expenditure. Leviathan Hypothesis, Niskanen Model, Efficiency and Equity Trade off, Transfers and Subsidies, Financing of Social Programs.	10 hrs							
UNIT VI	Fiscal Federalism: Principles Determining Federal Division of Revenue and expenditure, Vertical and Horizontal Imbalances, Transfer Mechanism in India, Role of Finance & Planning Commissions, Sharing of Taxes, Non-tax Revenues and Grants.								
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Musgrave R.A. and P.B. Musgrave. <i>Theory and Practice of Public Finance</i> , Tata McGraw Hills									
Reference Books:									
2. Jonathan Gruber. <i>Public Finance and Public Policy</i> , Worth Publishers									
3. John Leach. <i>A course in Public Economics</i> , Cambridge University Press									
4. Jean Hindriks and Gareth D. Myles, <i>Intermediate Public Economics</i> , MIT Press									
5. Gupta Janak Raj. <i>Public Economics in India: Theory and Practice</i> , Atlantic Publisher									
6. Bagchi Amaresh. <i>Readings in Public Finance</i> , Oxford University Press									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	2	3							
CO3	2	3	2	2					
CO4	2	2			1	1			
CO5	2	3	1	1					
CO6	2	3	2	2	2	2			
CO7	2	2			2	2			
CO8	2	2							
CO9		3			3	3			
*1: Low, 2: Medium, 3: High									

Course Name: Dissertation II (ECO511)		
TEACHING SCHEME	EXAMINATION SCHEME	CREDITS ALLOTTED
Theory: 14 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	14
		Total: 14
Course Pre-requisites:		
1	Student must have completed the knowledge of Macroeconomics, Microeconomics, Econometrics and Dissertation I	
Course Objective:		
	The purpose of the Dissertation II is to encourage students to undertake independent economic research, use analytical application to analyse data and interpretation to foster research-related skills, which should benefit	

	future study and employment.								
Course Outcomes: The students will be able to									
1	Analyse and interpret the collected data								
2	Apply the economic models, theories and tools of research to process, code , present and interpret the data								
3	Use statistical software to analyze the data								
4	Present research findings and argument in a suitably structured and sequenced thesis that conforms to protocols of academic presentation and research practice.								
5	Demonstrate the ability to critique literature and conduct analyses at a Masters level.								
Assessment:									
CIA 1	Presentation of Progress of Research Work								20
CIA 2	Presentation of Data Analysis Work								20
ESE	The students are required to submit their dissertation report as per guidelines prescribed by the department at the end of the specified period. The students are also required to attend viva voce examination during the end of the Semester IV of the programme. Out of total 60 marks in this Master’s thesis, 30 marks are of master thesis, to be assessed by the Department (by constituting a panel of examiners including internal & external examiners) and rest 30 marks are of viva voce to be awarded by internal & external examiners.								60
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1			2	2	2	2	2	2	
CO2			2	2	2	2	2	2	1
CO3			3	3			3	3	
CO 4							2	2	
CO5			2			2			2
*1: Low, 2: Medium, 3: High									

<b>Course Name: Economics of Human Development (ECO 513)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of welfare economics and Development Economics	
Course Objective:		
	This course aims to provide basic knowledge and better understanding of the critical issues involved in human development interpretation. It focuses on ‘people-oriented’ view of development.	
Course Outcomes: The students will be able to		
1	Appreciate the importance of human development in development theory.	
2	Assess development as ‘the expansion of human capabilities’ in research application	
3	Relate the various dimensions of human development like Social capital, inclusion, empowerment and freedom to growth and development.	
4	To relate the development phenomenon in India in context of human development	
Course Content:		
UNIT I	Concepts and Dimensions of Human Development, Ends and Means of Development, Multi-faceted Nature of Development, Rawls: A Critique of Utilitarianism,	10 hrs
UNIT II	Sen: The Capability Approach, Dimensions of Development, Human Rights and Human Development, Cultural Diversity and Human Development	10 hrs

UNIT III	Measurement Aspect: Refinement of Human Development Index, Measuring Deprivation adjusted for Group Disparities, Secluded (isolated) and Proximate Illiteracy, Measuring Group Differentials and Multidimensional Poverty	10 hrs							
UNIT IV	Economics of Public investment in education, health care and environmental sustainability, Dynamic linkage between human development and growth.	10 hrs							
UNIT V	Other dimensions of human development: Social capital, inclusion, empowerment and freedom	10 hrs							
UNIT VI	HD in India, Role of institutions (national and international), government and NGOs, Studies specifically related to Indian economy showing linkage between human development and economic growth.	10 hrs							
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Sen, Amartya K., <i>Choice, Welfare and Measurement</i> , Oxford, Basil Blackwell, 1982									
2. Sen, Amartya, <i>Development as Freedom</i> , Oxford, Oxford University Press, 1999									
Reference Books:									
3. Nussbaum, Martha, and Sen, Amartya. <i>The Quality of Life</i> . Oxford: Clarendon Press, 1993									
4. Tapomoy Deb "Human Resource Development Ane Books India, NewDelhi 2006									
5. John P. Wilson, Kogan "Human Resource Development", Page, London. 2008									
6. Ranis, G, F. Stewart and A. Ramirez (2000), Economic Growth and Human development, in <i>World Development</i> , February 2000, Vol. 28(2): 197-219									
7. Ranis, G, F. Stewart and Emma Samman "Human Development: Beyond the Human Development Index," <i>Journal of Human Development</i> , 7(3), November 2006. pp.323-358.									
8. Ranis, G and F. Stewart Dynamic Links between the Economy and Human Development," in <i>Policy Matters: Economic and Social Policies to Sustain Equitable Development</i> , José Ocampo, Jomo K.S. and Sarbuland Khan (eds), Zed Books Ltd., London, UK. 2007, pp.32-52									
9. Stephen Marris, Devlin N. & David Parkin, (2009), "Economic Analysis in Health Care", Wiley India Edition, New Delhi-02.									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2			2	2	3	3			
CO3	3	3			2	2			
CO4	3	3			2	2			
*1: Low, 2: Medium, 3: High									

<b>Course Name: International Macroeconomics and International Finance (ECO514)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Student must have completed the knowledge of Macroeconomics, and International Trade Theory and Policy	
Course Objective:		
	This course links the fields of macro-economics and finance in open economy. It provides coverage of economic principles that underlie the operation of macroeconomics tools and other financial institutions. The roles of balance of payment adjustment mechanism in monetary, portfolio, extended portfolio, with fixed and	

flexible exchange rate system are examined. The course aims at providing students with the means to analyse monetary questions and institutions. It is not a course designed to further technical expertise in the instruments used in financial markets but covering the theories of uncovered interest arbitrage, swapping, hedging and speculations. It's also targeting the applications of forward, future, open, and spot market operations. Theories related to internal and external equilibrium of the economy will be discussed. The course has aim to target the understanding of international monetary markets and its fluctuations with macroeconomic policy decisions such as coordination of fiscal and monetary policy, optimum currency area, fixed and flexible exchange rate system, domestic pricing, central and commercial bank actions, aggregate demand and supply, interest rate and expectations.									
Course Outcomes: The students will be able to									
1	Develop the understanding of macroeconomic policy decisions and its impact on open economy and balance of payment adjustments.								
2	Develop the Understanding of aggregate demand and supply application with fixed and flexible exchange rate system to discover the open market fluctuations.								
3	Demonstrate the ability to adjust internal and external disequilibrium with fiscal and monetary policy coordination								
4	Develop the understanding of financial market of swap, hedging, future, forward, open, and speculations								
5	Understand how foreign trade multiplier works and creates repercussion effects in open economy								
6	Understand the international financial institution, dollarization and reserve currency issues and their impact on domestic and open economy.								
7	Understanding of portfolio and asset market with fixed and flexible exchange rate system								
8	Ability to use balance of payment adjustment mechanism in absorption, devaluation and monetary decisions of a country								
9	Understand the quantitative applications and derivations of theories in practice								
Course Content:									
UNIT I	International Macroeconomics- Prices and Output in an open economy. Long-run adjustment mechanisms. Automatic adjustment – foreign trade multipliers. Fiscal and monetary policy under flexible exchanges. Interdependence and Multi-lateral co-ordination.								10 hrs
UNIT II	Balance of payments. Current account and fiscal deficit. Capital account. Disequilibrium and adjustment. Elasticity conditions for adjustment in trade account.								10 hrs
UNIT III	Currency markets transactions. Currency standards, convertibility and reserve currencies. SWAP, Hedging, speculation, Forward Markets and hot money transfers under capital account convertibility.								10 hrs
UNIT IV	Purchasing power parity. Interest rate parity. Nominal, real and effective exchange rates. Fixed and flexible exchange rates. Exchange controls. Short-run and long run capital movements.								10 hrs
UNIT V	Implication of capital flows—Mundell-Fleming Model, SWAN Model, currency crisis and contagion.								10 hrs
UNIT VI	Money and the role of banks.EU and monetary integration. Dollarization. Optimum currency areas, Monetary, banking and foreign exchange regulations. The International Monetary Fund. China and reserve currency issues.								10 hrs
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
2. Dominick Salvatore, <i>International Economics: Trade and Finance</i> , John Wiley International Student Edition, 10th edition, 2011.									
Reference Books:									
3. Bhagwati, J. N., A. Panagariya and T.N.Srinivasan(1998), <i>Lectures on International Trade</i> , OUP, New Delhi, Second Edition.									
4. Krugman, P.A. and M Obstfeld (2003), <i>International Economics: Theory and Policy, Sixth Ed.</i>									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							

CO2	2	3							
CO3	2	3	2	2					
CO 4	2	2							
CO5	2	3		2					
CO6	2	3	2	2					
CO7	3	3							
CO8	2	2	2	2					
CO9			3	3	2	2			
*1: Low, 2: Medium, 3: High									

## AECC/SECC Courses

<b>Course Name: Mathematical Methods in Economics (ECO 403)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
<b>Course Pre-requisites:</b>		
1	Student must have completed Bachelor's Degree	
2	Aptitude and skills in Quantitative Analysis	
3	Must possess knowledge of elementary mathematics	
<b>Course Objective:</b>		
	The course covers a wide range of mathematical methods in applied economics. Specifically, it aims to provide the basics of mathematical methods and the range of mathematical techniques that are used to explain various applied economics problems. Also the course attempt to provide the insight of some advance level mathematical tools in understanding and formulating various economic theories.	
<b>Course Outcomes:</b> The students will be able to		
1	Familiar with a wide range of mathematical tools that are used to explain various economic theories.	
2	Successfully demonstrate the economic meaning of mathematical models.	

3	Optimize the resources and thus understand how the economic policy makers make decision.							
4	Demonstrate most of the theories in economics precisely and strategically.							
5	Understand the economic dynamics.							
Course Content:								
UNIT I	Concept of a function; Limits, continuity and differentiability of a real valued function; Convex and concave functions, Differentiation- Partial and total; Interpretation of partial derivatives.						10 hrs	
UNIT II	Optimization with single and multivariable functions- Unconstrained and constrained optimization in simple economic problems. Integration-simple and Definite, Applications to Economic variables						10 hrs	
UNIT III	Concept of a vector - its properties; Concept of matrix - their types, Simple operations on matrices, matrix inversion. Determinants and their basic properties; Solution of simultaneous equations through Cramer's rule; Jacobians and Hessians: Input-output Analysis.						10 hrs	
UNIT IV	Difference equations - Solution of first order and second order difference equations; Differential Equations						10 hrs	
UNIT V	Linear programming — Basic concept; Formulation of a linear programming problem — Its structure and variables; Nature of feasible, basic and optimal solution; Solution of simple linear programming problems through graphical and simplex method; Concept of duality and statement of duality theorems; Formulation of the Dual and its interpretation.						10 hrs	
UNIT VI	Game Theory: an introduction. Dominated and Dominant Strategies: The Prisoner's Dilemma, mixed strategy Nash Equilibrium; Saddle point solution; Simple applications to economics.						10 hrs	
Internal Assessment:								
CIA 1	Unit I, Unit II							
CIA 2	Assignment submission and/or presentation							
Text Books:								
1. Chiang, Alpha, C. and Kevin Wainwright. Fundamental methods of Mathematical								
Reference Books:								
1. Economics, latest edition, McGraw Hill.								
2. Knut Sydsaeter and Peter J Hammond. Mathematics for Economic Analysis, Pearson Education India.								
3. Carl P Simon and Lawrence Blume. Mathematics for Economists, W. W. Norton & Company.								
4. Mike Rosser. Basic Mathematics for Economists, Routledge								
5. Eric Rasmusen. Games and Informations, Basil Blackwell.								
6. Martin, J Osborne. An Introduction to Game Theory, Oxford University Press								
PO-CO Compliance Matrix								
	PO1	PO2	PO3	PO4	PO5	PO6		
CO1	2	2	2	2				
CO2			3	3				
CO3			2	2	2	2		
CO4			2	2	2	2		
CO5		3	2	3				
*1: Low, 2: Medium, 3: High								

<b>Course Name: Statistical Methods in Economics (ECO 404)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Student must have completed Bachelor's Degree	
2	Aptitude and skills in Quantitative Analysis	
3	Must possess knowledge of elementary statistics	
Course Objective:		
	The Course deals with simple tools and techniques, which will help a student in data collection, presentation, analysis and drawing inferences about various statistical hypotheses. The students are expected to formulate problems in economic theory and learn simple solutions with one or two variables.	
Course Outcomes: The students will be able to		
1	Compare and contrast various types of data.	
2	Select and estimate measures of central tendency and dispersion based on specific economic problems.	
3	Apply various sampling methods based on the context and need of the study.	
4	Apply the rules of probability theory and able to identify which approach is used in a given scenario.	
5	Understand the concept of Bayes theorem with its economic applications.	
6	Use correlation analysis on different types of data sets to find the degree of association.	
7	Estimate cause and effect relationship through regression analysis	
8	Able to select a good estimator in the process of estimation.	
9	Perform hypothesis testing using z test t-test, chi-square and f-tests and interpret the results.	
Course Content:		
UNIT I	Typical data sets arising in economics, Qualitative, Quantitative, Income, Expenditure, Time Series and Panel data. Major sources of data sets: Census, Government agencies, e-resources, Graphical representations, Measures of Central tendency, Measures of dispersion. Sampling methods: Census, simple random sample with and without replacement, stratified sampling methods.	10 hrs
UNIT II	Probability theory I: Laws of addition and multiplication; Independence of events, Conditional probability and concept of independence; Bayes theorem with applications;	10 hrs
UNIT III	Probability theory II: Random variable; Discrete and Continuous random variables; Probability density functions; Binomial, Poisson and Normal distributions, their mean and variance, graphs of normal density functions.	10 hrs
UNIT IV	Correlation: Pearson's product moment and Spearman's rank correlation-their properties; Partial and multiple correlations, linear and nonlinear regression.	10 hrs
UNIT V	Estimation: Concept of an estimator and its sampling distribution: Desirable properties of a good estimator; Point and Interval estimation.	10 hrs
UNIT VI	Testing of statistical hypotheses – Formulation of the problem; Null and alternative hypothesis; Type 1 and Type 2 errors, Goodness of fit; Confidence intervals and level of significance; Hypothesis testing for means, variance, regression coefficients based on standard normal, t, Chi-square and F tests.	10 hrs
Internal Assessment:		
CIA 1	Unit I, Unit II	
CIA 2	Assignment submission and/or presentation	
Text Books:		

1. Lee, C. F., Lee, J. C. and Lee, A. C. Statistics for Business and Financial Economics. (2000), World Scientific, Singapore.									
2. Newbold, P., Carlson, W. L. & Thorne B. M. Statistics for Business and Economics, Pearson									
Reference Books:									
1. Black, Ken. Business Statistics. (2004), John Wiley & Sons.									
2. Taylor, S. Business Statistics. (2001), Palgrave.									
3. Bluman, A. G. Elementary Statistics. (2009), McGraw-Hill									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2	1	1					
CO2		3	2	2					
CO3		3	2	2	2	2			
CO 4			3	3	2	2			
CO 5	2	3	1	1					
CO 6		3	3	3					
CO 7			3	3					
CO 8			3	3					
CO 9			3	3	2	2			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Econometrics (ECO 413)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Student must have completed the knowledge of Statistical and mathematical applications	
Course Objective:		
	The course is quantitatively rigorous and requires advanced knowledge of mathematics and statistics. An important objective of the course is to introduce regression analysis to students so that they are able to understand its applications in different fields in economics. Attention is also given to the violations of CLRM model, aspects of discrete choice models, and simultaneous equations models. Specifically, by the end of the course, students will be able to specify assumptions, formulate and estimate appropriate models, interpret the results and test their statistical significance. Students are required to conduct research in teams where they apply the techniques learnt during the course and present their results.	
Course Outcomes: The students will be able to		
1	<i>Estimate the regression model, derive the parameter estimators and learn to interpret.</i>	
2	Learn the consequences of the violations of CLRM assumptions, how to detect the problems of autocorrelation and heteroskedasticity and also able to learn the remedial measures.	
3	Understand and would learn to quantify the qualitative variables and the interpretations. They would learn to use the dummy variables both as explanatory as well as dependent variable.	
4	Learn the important simultaneous equation models and the simultaneous equation bias.	
5	Use these techniques of econometrics in their MA dissertations	
Course Content:		
UNIT I	Classical Linear Regression Model- two and three variables- assumptions, estimation, testing and forecasting, BLUE properties of OLS estimators (derivation and proof);	10 hrs
UNIT II	Variance of disturbance term; Introduction to multiple linear regression model and tests of linear restrictions; Simple regression coefficients versus partial regression coefficients.	10 hrs

UNIT III	Multicollinearity, Auto-correlation, and Heteroskedasticity: Nature, Causes, Consequences, Detection and Remedial measures.	10 hrs							
UNIT IV	Dummy variables; Models for Binary Choice-Linear Probability Model; The logit and the Probit Model. Distributed lag models	10 hrs							
UNIT V	Simultaneous Equation Models (Structural form and Reduced form) and Simultaneous Equation Bias;	10 hrs							
UNIT VI	Identification (Under-identified, Exactly identified and Over-identified model); Various Methods of Simultaneous Equation Model Estimation.	10 hrs							
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Damodar N. Gujarati, <i>Basic Econometrics</i> ; 4th Edition, McGraw Hill, 2008.									
2. Jaffery Wooldridge, <i>Introductory Econometrics: A Modern Approach, Cengage Learning</i>									
Reference Books:									
1. Koutsyannis, <i>Theory of Econometrics</i> , Palgrave									
2. G. S. Madalla, <i>Introduction to Econometrics</i> , McMillan Publishing Company									
3. Dimitrios Asterious and Stephen G. Hall, <i>Applied Econometrics</i> , Palgrave									
4. Christopher Daugherty: <i>Introduction to Econometrics</i>									
5. Crish Brooks, <i>Introductory Econometrics for Finance</i>									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1			3	3	2	2			
CO2	2	3	3	3					
CO3	2	3	3	3					
CO 4	3	3	3	3					
CO 5			3	3	3	3			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Computer Applications in Economics (ECO 504)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary econometrics, and statistics	
Course Objective:		
	This course has aim to introduce the econometric and statistical applications through computer applications and statistical software to students. It will help the student to apply econometric applications in research and real life economic issues and model building.	
Course Outcomes: The students will be able to		
1	Learn to estimate and interpret the problems of econometrics and statistics through computer applications	
2	Use statistical software i.e. STATA, E-Views, and SPSS	
3	Apply econometric and statistical applications in economic research and practice	
4	Identify and analyze the cross-sectional, time series and panel data with suitable econometric and computer application	
Course Content:		

UNIT I	An overview of Computers: Introduction to computer and Computer technologies. Overview of computer – Basic operating instructions. Overview of databases. Introduction to software – MS Office, Excel, STATA, SPSS, E-views. Loading the data to Excel, STATA, SPSS, E-views – Differences in the use of different software packages							10 hrs
UNIT II	Exploratory Data and Simple Statistical Analysis: Tabular and Graphical Representation of data with interpretation. Displaying graphs on the screen – Saving and operating graphs – Printing graphs – Labelling graphs – Overlay (two scales) graphs – Multiple graphs on a page. Descriptive Statistics: Central Tendency, Dispersion and Shape. Mean, median and mode – Variance and Standard Deviation – Skweness and Kurtosis – Five number summary – Covariance – Correlation (zero order, rank and partial correlation).							10 hrs
UNIT III	Simple Parametric and Non-parametric tests, t-test procedures, F-test, Mann Whitney procedures – Principal Components , Factor and Cluster Analysis							10 hrs
UNIT IV	Linear Regression-Interpretation using applications :Two Variable Regression Model, Multiple Regression including dummy variable, Growth rate calculation, Trend Analysis, Functional Forms,							10 hrs
UNIT V	Testing for Multicollinearity, Heteroskedasticity, and Autocorrelation and remedial measures, Specification error, Simultaneous Equation Model- 2SLS, Qualitative Response Model- Probit, Logit and Tobit							10 hrs
UNIT VI	Handling cross sectional data, time series data, longitudinal or panel data, survey data, Different econometric techniques especially with reference to valuation should be elaborated with suitable applications.							15 hrs
Internal Assessment:								
CIA 1	Unit I, Unit II							
CIA 2	Assignment submission and/or presentation							
Text Books:								
1. HGL - R. Carter Hill, William E. Griffiths and Guay C. Lim (2007) Principles of Econometrics, 3 <sup>rd</sup> Edition, November; (ISBN 978-0-471-72360-8) John Wiley & Sons Inc.								
2. GM - Darren George and Paul Mallery (2010) SPSS for Windows Step by Step: A Simple Study Guide and Reference, 17.0 Update, 10 <sup>th</sup> Edition; (ISBN: 9788131762257) Pearson Education.								
3. GHL - William E. Griffiths, R. Carter Hill and Guay C. Lim (2008) Using EViews for Principles of Econometrics, 3 <sup>rd</sup> Edition, February; (ISBN: 978-0-471-78711-2) John Wiley & Sons Inc.								
4. DP - Glyn Davis and Branko Pecar (2010) Business Statistics Using Excel, Paperback Ed., January, (ISBN: 978-0-19-955689-2) Oxford University Press.								
Reference Books:								
1. AH - Lee C. Adkins and R. Carter Hill (2007) Using Stata for Principles of Econometrics, 3 <sup>rd</sup> Edition, December; (ISBN: 978-0-470-18546-9) John Wiley & Sons Inc.								
2. HM - Timothy C. Haab and Kenneth E. McConnell (2003) Valuing Environmental and Natural Resources: The Econometrics of Non-Market Valuation (New Horizons in Environmental Economics) , Paperback Ed., March; (ISBN: 1843763885) Edward Elgar Pub HMS –								
3. CT - A. Colin Cameron and Pravin K. Trivedi (2009) Microeconometrics Using Stata, (ISBN: 1-59718-048-3) A Stata Press Publication.								
4. A. K. Enamul Haque, M. N. Murty, Priya Shyamsundar (2011) Environmental Valuation in South Asia, (ISBN: 1107007143) Cambridge University Press.								
5. Ham - Lawrence C. Hamilton (2006) Statistics with STATA, (ISBN: 0-495-10972-X), Thomson Brooks/Cole.								
PO-CO Compliance Matrix								
	PO1	PO2	PO3	PO4	PO5	PO6		
CO1	2	3	3	3				
CO2			3	3	2			
CO3			3	3	2	2		
CO 4	2	2	3	3	2	2		
*1: Low, 2: Medium, 3: High								

<b>Course: Research Methodology (ECO 512)</b>						
<b>TEACHING SCHEME</b>		<b>EXAMINATION SCHEME</b>		<b>CREDITS ALLOTTED</b>		
Theory: 4 hrs per week		End Semester Examination: 60 marks Internal Assessment: 40 marks		Theory: 3		
				Total: 3		
Course Pre-requisites:						
1	Student must have completed the basic knowledge of statistics and econometrics					
Course Objective:						
	This course introduces what and how to do research in economics thereby it enables students to learn how to do research in economics. It covers various types of research and designs that are possible in economics. Overall this course aims at providing an insight of economic researches, techniques, philosophy and ethics and also writing report in economics.					
Course Outcomes: The students will be able to						
1	Understand what research is and how to conduct research in economics					
2	Improve their logical thinking and understand the economic theories critically					
3	Learn to interpret economic data and also learn skills to analyze them.					
4	Undertake a research project and present it					
Course Content:						
UNIT I	Meaning of research in economics, Types of research, objectives and significance, Introduction to research philosophy, Research Ethics, Research methodology, methods and techniques differences among them, The logical framework of investigation, Hallmarks of Scientific investigations the nature of problem and appropriate methodology.				10 hrs	
UNIT II	Research process: Formulation of research problem, Literature review, development of working hypotheses, and preparation of research design.				10 hrs	
UNIT III	Sampling – Error minimizations, Techniques and designs. Collection of data: Primary sources-questionnaire, schedule, interview methods, observational method, Case study approaches; Secondary sources, Mixed methods.				10 hrs	
UNIT IV	Hypothesis testing, interpretation and generalization.				10 hrs	
UNIT V	Report writings, references and bibliography, referencing. Plagiarism, Oral presentations.				10 hrs	
UNIT VI	<b>Practical Applications with data Exposer to Excel, SPSS, EVIEWS and STATA</b> <ol style="list-style-type: none"> <li>Data entry: Qualitative, Quantitative (Cross-sectional, time series and pooled data)</li> <li>Tabular and Graphical Representation of data with interpretation.</li> <li>Descriptive Statistics: Central Tendency, Dispersion and Shape. Mean, median and mode – Variance and Standard Deviation – Skewness and Kurtosis – Covariance – Correlation; cross tabulation; outliers. Tests for normal distribution.</li> <li>Regression Analysis; Post regression Diagnostic tests.</li> </ol>				10 hrs	
Internal Assessment:						
CIA 1	Unit I, Unit II					
CIA 2	Assignment submission and/or presentation					
Text Books:						
1. Don Ethridge. <i>Research Methodology in Applied Economics: Organizing, Planning and Conducting</i> , Second Edition, Blackwell Publishing						
2. Greenlaw, S. <i>Doing Economics: A Guide to Understanding and Carrying Out Economics Research</i> , Houghton Mifflin						
3. Kothari, CR. <i>Research Methodology: Methods and Techniques</i> , WishwaPrakashan (Wiley Eastern Ltd), New Delhi						
Reference Books:						
1. Newbold Paul, Carlson, W. L. Thorne Betty M. <i>Statistics for Business and Economics</i> . 8ed, Pearson Education ltd.						
2. Manuals of Statistical Softwares (SPSS, EvIEWS, STATA)						
PO-CO Compliance Matrix						
	PO1	PO2	PO3	PO4	PO5	PO6

CO1		3	3	2	3	3
CO2		3	3	3		
CO3		3	3	3		
CO 4					3	3
*1: Low, 2: Medium, 3: High						

## Open Elective Courses

<b>Course Name: Economics of Money Banking and Financial Development in India (ECO 445)</b>		
TEACHING SCHEME	EXAMINATION SCHEME	CREDITS ALLOTTED
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary macroeconomics	
Course Objective:		
	Money, banking, and financial markets have emerged as instruments of payments for the services of factors of production, such as labour and capital and they also accommodate innumerable exchanges in the economy. Therefore, this course aims at providing students with a thorough understanding of the importance of money, banking, and financial markets in the economy.	
Course Outcomes: The students will be able to		
1	Identify and describe the economic principles underlying the operation of financial intermediaries and markets	
2	Explain how central banks conduct monetary policy and be able to interpret the goals of monetary policy	
3	Identify the markets for stocks, bonds, derivatives, and currencies	
4	Describe the structure of financial markets, the factors that shape them, and how they are regulated	
5	Identify the general principles of banking management	
6	Acquire and demonstrate analytical and problem solving skills within money, banking, and financial market disciplines;	
Course Content:		
UNIT I	<b>Money:</b> Why Study Money and Monetary Policy: Money and Business Cycles; Structural Evidence model, Reduced form evidence model, Early Keynesian Evidence, Early Monetarists Evidence. Transmission Mechanism of money: Traditional interest rate channel - other asset price effects, q Theory - Credit view approach.	10 hrs
UNIT II	<b>Monetary policy:</b> Money and Inflation, Money and Interest Rates. Conduct of Monetary Policy: Tools, Goals and Targets of Monetary Policy.	10 hrs

UNIT III	<b>An Overview of financial system I:</b> Functions of financial markets, structure of financial markets: Debt and Equity markets, primary and secondary markets, exchange and over-the-counter markets, Money and capital markets.		10 hrs						
UNIT IV	<b>An Overview of financial system II:</b> Function of financial intermediaries. An Economic Analysis of Banking Management. Analysis of market for reserves and federal funds rate with special reference to changes in monetary policy tools.		10 hrs						
UNIT V	<b>Understanding interest Rates:</b> Measuring interest Rates: types of Credit Market Instruments, Present Value, Yield to maturity, The Distinction between Interest Rates and Returns, Distinction between Real and Nominal Interest Rates. Behavior of interest rate; determination of market rate of interest rate-theory of Asset demand, Loanable Funds Framework, Changes in equilibrium interest rate, The Fisher effect, Business Cycle effect. Supply and Demand in the Market for Money: The Liquidity Preference Framework.		10 hrs						
UNIT VI	<b>Financial Development and Economic growth:</b> What is Financial Development, Measuring Financial development, Financial Development and Economic Growth: Theoretical and Empirical Literature, major issues in the field of finance-growth nexus. Financial development and economic growth in India - empirical evidence.		10 hrs						
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Mishkin, Frederic S and Stanley G Eakins, "Financial Markets and Institutions, Pearson Education, Sixth Edition, 2011.									
2. H.J. Johnson, Financial Institutions & Markets: A Global Perspective; McGraw Hill, 1993 (Int. edition.)									
3. Mishkin Frederic S, "The Economics of Money, Banking and Financial Markets", Pearson Education (AW), Seventh Edition, 2004.									
Reference Books:									
4. Paul Jastin and Padmalatha Suresh, "Management of Banking and Financial Services", Pearson Education, First Edition, 2007.									
5. Jadhav Narendra, Challenges to Indian Banking: Competition, Globalisation& Financial Markets, (Union Bank of India, 1996, Macmillan India Ltd., 1996.									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	2	2							
CO3	2	2	1	1	2				
CO 4	2	2							
CO 5	2	2			2	2			
CO 6	2	2			2	2			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Financial Economics (ECO 551)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4

				Total: 4					
Course Pre-requisites:									
1	Must possess knowledge of elementary macroeconomics								
Course Objective:									
	This course deals with the interrelationship between finance and economics and aims to be taught in master level. It focuses on the important theories of finance and their practical application. It also covers the financial market volatility and its relationship with real economic activity.								
Course Outcomes: The students will be able to									
1	Apply the fundamental tools of finance and understand the financial market behaviour.								
2	Understand the pricing methods in capital market and its application								
3	Learn the market volatility and its impact on the economy.								
4	learn the capital structure decisions of firms								
Course Content:									
UNIT I	Introduction to Financial Institutions and Markets: Aims and objectives of Finance functions: Investment Decision, Financing decisions, Dividend Decisions and Capital Budgeting Decisions. Profit maximisation vs Shareholder's wealth Maximization, The Agency Theory.				10 hrs				
UNIT II	Financial markets and institutions: Money Market and Capital Market; Primary market/ new issue Market; Consumption and investment with and without capital market.								
UNIT III	Risk and Uncertainty: Types of Risks: Systematic and Unsystematic Risks. Risk Return Trade-off. Financial Decision Making Under uncertainty; the expected Utility Theorem. Measurement of Risks and Return of securities; Market beta. Diversification of Risk.				10 hrs				
UNIT IV	Pricing of Securities and Portfolio Theory: Efficient market hypothesis (EMH); random walk theory. EMH vs Fundamental and Technical Analysis. Asset allocation and portfolio choice. The Markowitz theory of portfolio selection. Asset pricing: Capital market line and Security market line; CAPM; Pricing of Securities with CAPM. The Arbitrage Pricing Theory (APT).				10 hrs				
UNIT V	Financial Markets and Real Economic Activities: Stock Market behaviour: Market Volatility. Interaction between stock market and real economy: stock market behaviour under different economic policies.				10 hrs				
UNIT VI	Introduction to capital Structure Theories: Financing Mix: Choice between equity vs debt. Capital Structure Theories: Modigliani-Miller Irrelevance hypothesis; Signalling Hypothesis; Trade-off theory and Pecking Order theory.				10 hrs				
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Stephen F. Leroy and Jan Werner, Principle of Financial Economics, Cambridge University Press, 2001.									
2. Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan, <i>Fundamentals of Corporate Finance</i> . McGraw-Hill.									
Reference Books:									
1. Elton, E.J and M.J. Gruber, Modern Portfolio Theory & Investment Analysis, (fourth edition) John Wiley & Sons 1991.									
2. Richard A. Brealey and Stewart C. Myers, <i>Principles of Corporate Finance</i> , McGraw-Hill.									
3. Thomas E Copeland, J. Fred Weston and Kuldeep Shastri, <i>Financial Theory and Corporate Policy</i> , Prentice Hall, 4 <sup>th</sup> edition, 2003.									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	2	2							

CO3		3	3	2					
CO4	2	2							

\*1: Low, 2: Medium, 3: High

## Discipline Specific Elective Courses

<b>Course Name: Agricultural Economics (ECO 421)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary economics	
Course Objective:		
	The aim of this course to provide students with an in-depth understanding of the issues relating to Indian agriculture and farmers' welfare. The focus is on analyzing structural patterns in Indian agriculture, and how policies have influenced farmers' choices and incomes. The approach is modular, and will depend on the policy discourse.	
Course Outcomes: The students will be able to		
1	Participate in decision making related to the agricultural sector,	
2	Have sufficient background to undertake independent research in this area.	
3	Develop the understanding about agricultural issues of national and international	
Course Content:		
UNIT I	Agriculture Economics - Definition of Agriculture Economics, Scope, Nature and Characteristics of Indian Agriculture, Differences & Linkages between Agriculture and Industry, Development in Agriculture Colonial & After Independence,	10 hrs
UNIT II	Farm Organisation, Availability of Inputs, Agricultural Infrastructure, Cropping Pattern, Size of Land Holdings, Land Reforms, Risk and Instability in Agriculture	10 hrs
UNIT III	Economics Laws in Agriculture - Production, Cost, Supply Response, Introduction to Market Price Determination and Input Demand, Concept of Elasticity,	10 hrs
UNIT IV	Agriculture Price Policy in India, Agriculture Marketing, Importance of Agriculture for National Economy, Production Pattern regional variation recourse use efficiency	10 hrs
UNIT V	Green Revolution - Production, Productivity, HYV, Irrigation Fertilizer Mechanisation, MSP Debate on Economic System for Agricultural Marketing, Agricultural Credit, Government Financial Support	10 hrs
UNIT VI	Foreign Trade in Agriculture - India's Competitiveness in International Market, Storage Facility, Issues in Indian Agriculture & WTO Rules	10 hrs
Internal Assessment:		
CIA 1	Unit I, Unit II	
CIA 2	Assignment submission and/or presentation	
Text Books:		



UNIT IV	Theory of environment Regulation: Pigovian solutions; Subsidies for Abatement of pollution, Property Rights and the Coasian Approach: bargain Solution.	10 hrs							
UNIT V	Quantitative regulation: Command and Control- Standard setting; Tradable pollution permits; Refundable deposits, Output Tax.	10 hrs							
UNIT VI	The Problem of uncertainty and risk in Environmental policy choice; Regulation with unknown Control cost; Monitoring emissions, enforcement and Moral hazard; Environmental Risk and uncertainty.	10 hrs							
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Kolstad, C, D. (2003) Environmental Economics, Oxford university Press									
Reference Books:									
1. Thomas and Callan, Environmental Economics, Cengage Learning, 2009.									
2. Tietenberg, T. (1996), Environmental and Natural Resource Economics, Harper Collins, College Publishers, New York, Fourth Edition									
3. Bhattacharya, R. N. (Edited) (2001), Environmental Economics: An Indian Perspective, Oxford University Press, New Delhi.									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	2	2							
CO3		2	2	2					
CO4		2	2	2					
CO5		2	3	3	2	2			
CO6	2	2			2	2			
CO7		2	3	3	2	2			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Political Economy (ECO 423)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary economics	
Course Objective:		
	This course explores the relationship between political institutions and economic development, covering key theoretical issues as well as recent empirical evidences. Topics include corruption, democracy, dictatorship, and war. Discusses not just what we know on these topics, but how we know it, covering how to craft a good empirical study or field experiment and how to discriminate between reliable and unreliable evidence.	
Course Outcomes: The students will be able to		
1	Build a foundation for thinking about the role of political economy in understanding economic development.	
2	Understand some core theoretical concepts in political economy, with illustrations from developing countries whenever possible.	
3	Understand empirical evidence in economics. What makes a good empirical study? How do we learn about the world empirically? What are some of the techniques we can use to better understand the world?	

Course Content:									
UNIT I	Introduction: Why study political economy and development? Motivation and course overview; Different traditions in political economy – classical political economy, marxist political economy, new political economy							10 hrs	
UNIT II	Does Political Economy Matter for Economic Development? Some Facts and Empirical Techniques. The Role of Leaders and Democratic Institutions; The Deep Determinants of Economic Development: Macro Evidence; The Deep Determinants of Economic Development: Micro Evidence; inequality and economic growth; political economy and social/human development							10 hrs	
UNIT III	Voting I: The Median Voter Theorem; Voting in Practice: Citizen-Candidate Models, Politician Identity and the Failure of the Median Voter Theorem; Voting in Practice: Agency Models; Voting in Practice: Vote buying and voter intimidation;							10 hrs	
UNIT IV	Voting II : Sometimes It Gets Complicated: Condorcet's Paradox and Arrow's Impossibility Theorem. Good vs. Bad Dictatorships; Commitment problems in Dictatorship							10 hrs	
UNIT V	Collective Actions: The Logic of Collective Action; Ethnic Heterogeneity and Contributions to Public Goods; Monitoring and Collective Action Problems; Recovery from Civil War; Why Do Wars Happen; Civil War.							10 hrs	
UNIT VI	Corruption: Is Corruption Inefficient; The Corrupt Official's Decision Problem: Balancing Risks, Rents, and Incentives; The Industrial Organization of Corruption; Politicians and Firms							10 hrs	
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Bardhan, P. (1998), <i>Political Economy of Development in India</i> , Oxford: Oxford University Press.									
2. <a href="#">Charles Sackrey</a> , <a href="#">Geoffrey Schneider</a> and <a href="#">Janet Knoedler</a> (2013), <i>Introduction to Political Economy</i> , 7 <sup>th</sup> /8 <sup>th</sup> edition, Dollars and Sense.									
Reference Books:									
3. Bardhan (1999), <i>Political Economy of Reforms in India</i> , New Delhi: NCAER.									
4. Fine, Ben and Milonakis, Dimitris (2008), <i>From Political Economy to Economics: Method, the Social and the Historical in the Evolution of Economic Theory</i> . Routledge.									
5. Frankel, F. (2005), <i>India's Political Economy: a gradual revolution, 1947-2004</i> , Oxford University Press.									
6. Jevon, W. Stanley. <i>The Theory of Political Economy</i>									
7. Ricardo, David. (1817). <i>Principles of Political economy and Taxation</i> , the Sraffa edition.									
8. Roland, G. (2000) <i>Politics, Market and Firms</i> , The MIT Press: Cambridge, Mass.									
9. Roncaglia, Alessandro. (2005). <i>The Wealth of Ideas</i> . Cambridge University Press, Cambridge									
10. Simon, David (2005). <i>Fifty Key Thinkers on Development</i> , Routledge.									
11. Smith, Adam. (1776). <i>An inquiry into the nature and causes of the wealth of nations</i> , The Glasgow edition.									
12. Sweezy, Paul (1970). <i>The Theory of Capitalist development: Principles of Marxian Political economy</i> . Modern Reader Paperbacks, New York									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	2	2	2		2	2			
CO3		2	2	2	2	2			
*1: Low, 2: Medium, 3: High									



Course Name: History of Modern Economic Analysis(ECO 425)				
TEACHING SCHEME		EXAMINATION SCHEME		CREDITS ALLOTTED
Theory: 4 hrs per week		End Semester Examination: 60 marks Internal Assessment: 40 marks		Theory: 4
				Total: 4
Course Pre-requisites:				
1	Must possess knowledge of elementary economics			
Course Objective:				
This course is an introduction to the history of economic theory. While the major phases in the development of economics will be studied, the aim will be to treat them against the background of their historical environment, including political and social thought and current economic problems. The course will include, but not be confined to, the work of Smith, Ricardo, Marshall and Keynes.				
Course Outcomes: The students will be able to				
1	To comprehend the development of the theory of economics in historical perspective.			
2	To comprehend emerging paradigms and aberrations with its reasons			
3	To debate similarities and differences among different economy schools.			
Course Content:				
UNIT I	MARGINALIST THOUGHT Marginalist revolutions--W.JevonsWalras, De-homogenizing marginalism, Marshallian synthesis			1 10 hrs
UNIT II	NEO-CLASSICAL THOUGHT , Welfare economics of A.C. Pigou. Schumpeter; role of Entrepreneur and innovations.			10 hrs
UNIT III	CLASSICAL POLITICAL ECONOMY I Adam Smith and his economic theory, Ricardo's contribution to classical economic thought, Ricardo-Malthus glut controversy, Classical Stationary State with special reference to Mill's views, A general Overview of Classical Economic Thought,			10 hrs
UNIT IV	CLASSICAL POLITICAL ECONOMY II Karl Marx - Organic Composition of Capital. Break Down of Capitalism, Marxian Theories of Value, Surplus Value, Profit and Crisis of Capitalism. Essential Differences between Classical Economics and Marxian Economics.			10 hrs
UNIT V	KEYNESIAN's THOUGHT The aggregate economy, Liquidity Preference Theory and Liquidity trap, Marginal Efficiency of Capital and Marginal Efficiency of Investment, wage rigidities, underemployment equilibrium, role of fiscal policy, deficit spending and public works, multiplier principle, cyclical behaviour of the economy, uncertainty and role of expectations.			10 hrs
UNIT VI	INDIAN ECONOMIC THOUGHT Main themes of Kautilya'sArthasashtra; Economic Ideas; Dada Bhai Naoroji, Ranade, Gokhale; M.K. Gandhi, Bhimrao Ambedkar, Deendayal Upadhyay and J K Mehta. A synthesis of economic thought, Comparison of Indian economic thought with western economic thought.			10 hrs
Internal Assessment:				
CIA 1	Unit I, Unit II			
CIA 2	Assignment submission and/or presentation			
Text Books:				
1.	Blackhouse, R. (1985), A History of Modern Economic Analysis, Basil Blackwell, Oxford.			

2.		Ganguli, B.N. (1977), Indian Economic Thought: A 19th Century Perspective, Tata McGraw Hill, New Delhi.								
		Reference Books:								
3.		Grey, A. and A.E. Thomson (1980), The Development of Economic Doctrine, (2nd Edition), Longman Group, London.								
4.		Kautilya (1992), The Arthashastra, Edited, Rearranged, Translated and Introduced by L.N. Rangarajan, Penguin Books, New Delhi.								
5.		Schumpeter, J.A. (1954), History of Economic Analysis, Oxford University Press, New York								
6.		Seshadri, G.B. (1997), Economic Doctrines, B.R. Publishing Corporation, Delhi.								
7.		Blaug, M. (1997), Economic Theory in Retrospect: A History of Economic Thought from Adam Smith to J.M. Keynes, (5th Edition), Cambridge University Press, Cambridge.								
8.		Dasgupta, A.K. (1985), Epochs of Economic Theory, Oxford University Press, New Delhi.								
9.		Hunt E.K. and Mark, Lautzenheier (2011): History of Economic Thought, PHI Learning.								
PO-CO Compliance Matrix										
		PO1	PO2	PO3	PO4	PO5	PO6			
CO1		2	2							
CO2		2	2							
CO3						2	2			
		*1: Low, 2: Medium, 3: High								

<b>Course Name: Monetary Economics (ECO 521)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary macroeconomics	
Course Objective:		
	This course explores the practical aspects of money and banking within the economy. Topics will include money creation, banking operation, central banking system-conduct of monetary policy, and monetary management in an open economy. Emphasis is given to the changing role of financial institutions as well as new financial instruments. The course develops a number of theoretical frameworks for the analysis of domestic economic perspective related to money, banking operation, monetary transmission mechanisms, which provides a base for the understanding of classical and Keynesian approaches for monetary theory and their empirical evidence. The course also focuses on the issues of monetary policy implementation in the closed and open economy contexts, like determinants of the price level, rate of inflation, exchange rate in different regimes.	
Course Outcomes: The students will be able to		
1	Understand the basic concepts of money including its origin, functions	
2	Understand the role of money, money demand and money supply in the economy	
3	Describe the process of money creation by the banking system and the role of the central bank	
4	Understand the general principles of bank management	
5	Identify the key banking sector reforms in India and policy implications of those reforms with respect to	

	development of Indian economy							
6	Elucidate the liability and asset portfolio management "problem" of banks							
7	Assess and evaluate the conduct of monetary policy by the central bank with respect to an open economy management							
8	Understand the analysis of market for reserves and federal funds rate with special reference to changes in monetary policy tools							
9	Asses the changing role of financial institutions as well as new financial instruments in the economy							
Course Content:								
UNIT I	Money: Concept, functions, measurement; Supply of money: Mechanics of money supply creation; measures of money supply in India. Demand for money: Fisher, Cambridge, and Keynesian and Friedman theories.						10 hrs	
UNIT II	Commercial Banking System: Meaning, functions, assets and liabilities-Balancing liquidity with profitability, process of credit creation by commercial banks. reforms.						10 hrs	
UNIT III	General principles of banking management, Indian banking system: Changing role and structure; banking sector						10 hrs	
UNIT IV	Central Banking: Meaning and functions, techniques of credit control with special reference to India, conduct of monetary policy: Goals, targets, indicators and instruments of monetary control; Analysis of market for reserves and federal funds rate with special reference to changes in monetary policy tools. Monetary management in an open economy.						10 hrs	
UNIT V	Financial Institutions: Economic analysis of financial structure; Basic puzzles about financial structure throughout the world, transaction costs and its impact on financial structure,						10 hrs	
UNIT VI	Problem of asymmetric information – adverse selection and moral hazard and its impact on financial structure. Role of financial markets and institutions in Economic development.						10 hrs	
Internal Assessment:								
CIA 1	Unit I, Unit II							
CIA 2	Assignment submission and/or presentation							
Text Books:								
1. SurajB.Gupta, Monetary Economics, S. Chand and Company Ltd								
2. Frederic S. Mishkin., The Economics of Money, Banking and Financial Markets, Pearson, Addison, Wesley. Newyork, 7 <sup>th</sup> Edition (2004)								
3. Peter Howells and Keith Bain., the Economics of Money and Banking, Pearson, Education Limit. 3 <sup>rd</sup> Edition (2005).								
Reference Books:								
4. SurajB.Gupta., Monetary Planning for India, University Press, New Delhi.								
5. L. M. Bhole and J. Mahukud, Financial Institutions and Markets, Tata McGraw Hill, 5th edition, 2011.								
PO-CO Compliance Matrix								
	PO1	PO2	PO3	PO4	PO5	PO6		
CO1	2	2						
CO2	2	2						
CO3	2	2						
CO4	2	2						
CO5	2	2						
CO6	2	2						
CO7		2	3	3	2	2		
CO8		2	2	2	2	2		
CO9		2	2	2	2	2		
*1: Low, 2: Medium, 3: High								

<b>Course Name: Economics of Mathematical Finance (ECO 522)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary macroeconomics and mathematics	
Course Objective:		
	This course introduces the basic mathematics to be used in finance. It is ideal for the students who want to a rigorous study in finance in their final year of under-graduation level. This course ensures that students can experience mathematical and economic perspective of the subject. Using mathematics as a tool this course covers a wide range of topics in finance, such as, the time value of money, portfolio theory, capital market theory, security price modeling, and financial derivatives.	
Course Outcomes: The students will be able to		
1	Understand the mathematical foundation of quantitative finance	
2	Grasp the standard and advanced quantitative methodologies applied in the area of financial economics.	
3	Create and evaluate the potential models for the pricing of shares and bonds.	
4	Construct, analyze and evaluate the models for investment of financial assets.	
5	Understand the emerging theories and techniques in the area of financial economics.	
Course Content:		
UNIT I	Review of basic mathematical tools, probability theory and random variables. Economic indicators that may affect the financial markets. Mathematics of the Time Value of Money: Simple interest, Compound interest, Annuities and amortization theory, NPV, IRR.	10 hrs
UNIT II	Mathematics of Investment: Buying and selling stocks, Common stock valuation, cost of new issues of common stock, stock value with two-stage dividend growth, Bond valuation, premium and discount prices, premium amortization, discount accumulation,	10 hrs
UNIT III	Estimating the yield rate. Mathematics of Return and Risk: Expected rate of return, measuring the risk, risk aversion and risk premium, return and risk at the portfolio level.	10 hrs
UNIT IV	Portfolio Theory I: Markowitz Portfolio Model, Two securities portfolio, N-securities portfolio, Investor Utility, Diversification and randomly selected securities. Capital market Theory: the financial beta ( $\beta$ ),	10 hrs
UNIT V	Portfolio Theory II: The Capital Market line, The CAPM equation, The Security Market Line, CAPM security risk decomposition. Portfolio Risk Measures: The Sharpe ratio, the Sortino ration, Value-at-Risk.	10 hrs
UNIT VI	Derivatives: Forwards, Futures and Options. Dynamics of making profits with options, Intrinsic Values of Calls and Puts, Time value of Calls and Puts, The delta ratio, determinates of option value, Option valuation. Option Pricing: The Black-Scholes-Merton (BSM) mode. The BSM model vs market data.	10 hrs
Internal Assessment:		
CIA 1	Unit I, Unit II	
CIA 2	Assignment submission and/or presentation	
Text Books:		
1. A. O. Petters and X. Dong, An Introduction to Mathematical Finance with Applications (Springer, 2016)		
2. M. J. Alhabeeb, Mathematical Finance, (Wiley, 2012)		
Reference Books:		
3. S. Ross, An Elementary Introduction to Mathematical Finance, Third Edition (Cambridge U. Press,		

Cambridge, 2011)									
4. J Janssen, R. Manca, and E. V. di Prignano, Mathematical Finance: Deterministic and Stochastic Models (Wiley, 2009)									
S. Roman, Introduction to the Mathematics of Finance (Springer, 2004)									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2	3	3					
CO2	2	2	3	3					
CO3	2	2							
CO4		2	2	2	2	2			
CO5			3	3					
*1: Low, 2: Medium, 3: High									

<b>Course Name: Behavioral Economics (ECO 523)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary microeconomics	
Course Objective:		
	This course will provide students with a clear introduction to the principles and methods of Behavioural Economics. Behavioural economics considers the ways that people are more social, more impulsive, less adept at using information, and more susceptible to psychological biases than the standard economic models assume.	
Course Outcomes: The students will be able to		
1	Understand the flexibility and limitations of the economic approach to modelling behaviour.	
2	Know how to use existing behavioural models to understand new economic phenomena.	
3	Know to design experiments to evaluate a proposed behavioural model.	
4	Know to evaluate research in Economics and disciplines related to behavioural research	
5	Be able to pose a novel research question, design plan to investigate it and conjecture how to answer it.	
Course Content:		
UNIT I	Introduction: What is behavioural economics? Introduction to the themes and methods of behavioural economics. Anticipation and information avoidance as introductory example. Making Choices Under Risk: Prospect Theory How do people really make choices when faced with uncertainty?	10 hrs
UNIT II	The role of reference-dependent preferences in both risky (loss-aversion) and risk-free (the endowment effect) choices.	10 hrs
UNIT III	Social Preferences I How do people care about those around them? Both distributional social preferences (altruism, inequality aversion)	10 hrs
UNIT IV	Social Preferences II Intentions-based social preferences (reciprocity, fairness). The possibility of self-deception.	10 hrs
UNIT V	Heuristics and Biases How do people make predictions about the world around them? The heuristics and biases displayed in judgment and decision-making.	10 hrs
UNIT VI	Nudges, Policy, and Happiness	10 hrs

How and when should governments intervene if people are “behavioural”? The theory of nudges, and happiness as an outcome									
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. An Introduction to Behavioral Economics, N. Wilkinson and M. Klaes (2012), Palgrave Macmillan									
2. Animal Spirits, G. Akerlof and R. Shiller (2009), Princeton University Press.									
References:									
3. Loewenstein (1987) “Anticipation and the Valuation of Delayed Consumption”. Economic Journal, 97(387): 666— 684									
4. Kahneman and Tversky (1979) “Prospect Theory: An Analysis of Decision Under Risk”, Econometrica, 47(2): 263–291									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	2	2							
CO3		2	2	2	2	2			
CO4			2		3	3			
CO5			3	2					
*1: Low, 2: Medium, 3: High									

<b>Course Name: Advanced Econometrics (ECO 524)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of introductory econometrics and statistics.	
Course Objective:		
	The purpose of this course is to teach and make student learn about the econometric estimations and their inferences at the advance level that can covers wide-range of economic issues. The course structure can be seen in broad heads, i.e. Time-series and Panel data analysis which further divided into four units. At the end of the course students are expected to learn how to apply the modern econometrics concepts and methods in analyzing and interpreting empirical research. The basic level of econometric understanding that has been taught in the previous semester is assumed.	
Course Outcomes: The students will be able to		
1	To conduct panel data analysis using pooled OLS, Fixed effects and Random Effects model.	
2	To apply time series econometric techniques to empirical settings	
3	To carry out empirical analyses using economic and financial time series data	
4	Interpret the results of such analyses, in terms of the validity of the inferences that can be drawn, and to appreciate the interplay between data and theory in making such inferences	
Course Content:		
UNIT I	Review of cross section data analysis; Introduction to static panel data models: pooled OLS, Fixed effects and Random Effects. Choosing fixed effects vs random effects: The Hausman specification test,	10 hrs
UNIT II	Mundlak’s approach, Chamberlain’s approach. Robust estimations, Heteroskedasticity and	10 hrs

	autocorrelations in panel data.								
UNIT III	Importance of lags in economic variables, Estimations of distributed lag model: Koyck Approach, adaptive expectations model, adaptive expectations and partial adjustment models; Autoregressive models. Almon Approach. Introduction to Univariate time-series econometrics: Stationary and non-stationary process; Tests for stationarity: unit root tests.								10 hrs
UNIT IV	Time series and forecasting: AR, MA, and ARIMA models. The vector auto regression (VAR), Granger causality, Granger non-causality tests: Toda and Yamamoto. Measuring volatility: the family of ARCH and GARCH models.								10 hrs
UNIT V	The concept of spurious regressions and co-integration. Engle —Granger approach, Multivariate co-integration tests: the Johansen's approach. ECM and VECM. ARDL models.								10 hrs
UNIT VI	Dynamic linear panel data models; Panel Unit root tests, GMM models, the system GMM models.								10 hrs
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Greene, William H. (2012). <i>Econometric Analysis</i> , Pearson Prentice Hall, 7th edition. Pesaran M. H (2015). <i>Time Series and Panel Data Econometrics</i> , Oxford University Press									
Reference Books:									
2. Arellano M. (2003). <i>Panel Data Econometrics: Advanced texts in econometrics</i> . Oxford University Press									
3. Badi H Baltagi (2005). <i>Econometric Analysis of Panel Data</i> , 3 <sup>rd</sup> edition, John Wiley and Sons Ltd.									
4. Wooldridge, Jeffrey (2010), <i>Econometric Analysis of Cross Section and Panel Data</i> , Cambridge: MIT Press.									
5. Hsiao, Cheng (2003). <i>Analysis of Panel Data</i> , Second Edition, Cambridge University Press									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1			3	3	2	2			
CO2			3	3	2	2			
CO3			3	3	2	2			
CO4			3	3	2	2			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Economics of Industrial Organization (ECO 525)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary microeconomics	
Course Objective:		
	This course provides a foundation for the study of theoretical models of industrial organization. This field of study is primarily concerned with the various strategic objectives and interactions in elite markets, employing the techniques taught in the compulsory course on game theory. It also provides a theoretical framework for analyzing antitrust/competition policy, as well as other policies related to regulation, innovation, intellectual property rights and strategic business policy, which are also covered by other courses.	
Course Outcomes: The students will be able to		

1	Think analytically, using game theoretic tools, about the principal issues concerning oligopolistic markets, competition,								
2	Apply them to the real world of industry. They would also be prepared to understand competition policy more naturally and foundationally.								
Course Content:									
UNIT I	Static oligopoly models with homogenous and differentiated products. Strategic substitutes and strategic complements. 10 hrs								
UNIT II	Dynamic models: Stackelberg and free entry. 10 hrs								
UNIT III	Spatial models of horizontal and vertical product differentiation. 10 hrs								
UNIT IV	Repeated game oligopoly: Stability and sustainability of cartels. 10 hrs								
UNIT V	Entry and entry deterrence strategies. 10 hrs								
UNIT VI	Vertically related markets and vertical contracts between firms. 10 hrs								
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. P. Belleflamme, M. Peitz: Industrial Organisation: Markets and Strategies, Cambridge University Press (2015)									
2. L. Cabral: Introduction to Industrial Organization, MIT Press (2017)									
Reference Books:									
3. M. Armstrong, R. Porter: Handbook of Industrial Organization, Vol. III, North-Holland (2007)									
4. O. Shy: Industrial Organization: Theory and Applications, MIT Press (1996)									
5. J. Tirole: The Theory of Industrial Organization, MIT Press (1988)									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2	3	3	2	2			
CO2			3	3	3	3			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Game Theory (ECO 526)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
1	Must possess knowledge of elementary microeconomics	
Course Objective:		
	Game theory is a formal study of conflicts and cooperation. The game theoretic concepts apply whenever the actions of several agents (individuals, groups, firms etc. or any combination of these) are interdependent. The concept of Game theory provides a language to formulate structure, analyze, and understand the strategic scenario. This course would provide the students the main ideas of how the game theories can help to understand the economic and social phenomena. It emphasizes the idea behind the theories rather than their mathematical expression typically taught in mathematics. The course would introduce some equilibrium concepts of game theory and their usage in economics along with various numerical examples and applications. The basic knowledge of game theory can dramatically improve the strategic instinct and the	

	decision making skill of students.								
Course Outcomes: The students will be able to									
1	Understand the economic and social phenomena easily								
2	Understand the actions of several economic agents (individuals, groups, firms etc. or any combination of these) in any market structure								
3	Improve their strategic instinct and the decision making skill								
4	Elucidate the concept of equilibrium in any branch economics								
5	Understand, clearly, the concept of Nash Equilibrium, different market strategies and zero-sum game								
Course Content:									
UNIT I	Introduction to Game Theory; History of Game Theoretic Analysis; classifications of games; theory of rational choice								10 hrs
UNIT II	Strategic Game: The Pay-off matrix; the Prisoner's dilemma.								10 hrs
UNIT III	Nash Equilibrium: The concept of Nash Equilibrium; dominating and dominated strategies; zero-sum game								10 hrs
UNIT IV	Mixed Strategy Nash Equilibrium: concepts and examples; strategic game with randomization. Games with perfect information.								10 hrs
UNIT V	Games with imperfect information; Bayesian Games; Cournot's duopoly game with imperfect information; auction; other applications.								10 hrs
UNIT VI	Repeated and Cooperative Games								10 hrs
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Osborne J Martin (2004), An Introduction to Game Theory, Oxford University Press									
Reference Books:									
1. Fudenberg, D. and Tirole, J. (1991), Game Theory, MIT Press									
2. Gibbons, R. (1992), A Primer in Game Theory, Prentice-Hall									
3. Myerson, R. (1991): Game Theory: Analysis of Conflict, Harvard University Press									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	3	2	3	2		2			
CO2	2	2							
CO3			2	2	1	1			
CO4	2	2	3						
CO5	2	3	2						
*1: Low, 2: Medium, 3: High									

<b>Course Name: Economics of Environmental Issues and Sustainable Development (ECO 527)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary microeconomics and environmental economics	
Course Objective:		
	The course aims to discuss the various approaches of sustainable development, emergence of the concept of sustainable development and role of environment in sustainable development. It also deals with international and domestic environmental issues and the new economic framework of genuine well-being and happiness.	
Course Outcomes: The students will be able to		
1	Critically appreciate the relevance of environmental economics in linking the notions of sustainable development.	
2	Understand the various approaches of sustainable development and how they are different from each other.	
3	Understand various trans-national environmental issues.	
4	Follow various issues related to energy, water, land, transport issues in association with the environmental concerns in India	
5	Appreciate the emergence of genuine wealth and its relevance in the new economic framework of well-being	
6	Comprehend the effects of globalization on environment.	
Course Content:		
UNIT I	The concept of Development and emergence of a new paradigm: Sustainable Development. Pursuits of Sustainable Development. Aspects of Sustainable Development : Economic, Ecological and Social, a Synthesis	10 hrs
UNIT II	Theory of Sustainable Development: Rules of sustainable development and Indicators: The Hartwick-Solow approach, Non-declining natural capital stock approaches, The SMS approach, Daly's operational principles, The Common-Perrings model of SD, 'Distance to goals' approach.	10 hrs
UNIT III	Trade and Environment: Trade, Foreign Investment and the Environment. Ecological dumping and standards	10 hrs
UNIT IV	Trans-national Pollution. Porter's hypothesis, race to bottom and pollution haven hypothesis. Globalization, Economic Reforms and the Environment	10 hrs
UNIT V	Environment and Economic Growth i) Indian Energy and Environment issues ii) Water, Land Transport and Urban development issues	10 hrs
UNIT VI	Genuine Wealth and Sustainable Development The Genuine Wealth Model : Defining genuine wealth , Old Economy of scarcity and new economy of well-being, Five Capital of Genuine wealth. Genuine wealth assessment life cycle. Genuine wealth models of communities and nations. Gross National Happiness: Case of Bhutan	10 hrs
Internal Assessment:		
CIA 1	Unit I, Unit II	
CIA 2	Assignment submission and/or presentation	
Text Books:		
1. Jonathan M. Harris (2000): "Basic Principles of Sustainable Development" G-DAE Working Paper No. 00-04.		
Reference Books:		

2. Bruno S. Frey , Economics Of Happiness, Springer International Publishing,2018									
3. Kanchan Chopra and VikramDayal (Ed). Hand book of Environmental Economics,Oxford University Press 2009.									
4. Sengupta, R.P, “Economics in India. Prospects and policies of low carbon Economic growth in India”, NIPFP Publications 2010.									
5. Peter Meier and Mohan Munasinghe,Sustainable Energy in Developing Countries: Policy Analysis and Case Studies,Cheltenham: Edward Elgar.									
<b>PO-CO Compliance Matrix</b>									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1			3		2	2			
CO2	3	3	2						
CO3	2	2			2	2			
CO4	2	2			2	2			
CO5	2	2			2	2			
CO6	2	2			2	2			
*1: Low, 2: Medium, 3: High									

<b>Course Name: Health Economics (ECO 528)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary economics	
Course Objective:		
	Health economics is the study of how scarce healthcare resources are allocated among competing interventions and among groups in society. This course introduces basic concepts and practical issues faced by decision makers at all levels in the health system in allocating scarce resources so that the choices they make maximize health benefits to the population.	
Course Outcomes: The students will be able to		
1	The key analytical reasoning and tools of health economics and their normative foundations and ethical implications	
2	Use economic models to understand behaviors of actors in the health care sector	
3	Undertake economic evaluation in healthcare, with an emphasis on identifying, measuring, valuing and analysing health outcomes and costs	
4	Understand approaches to identify and value costs and outcomes to include in economic evaluation	
5	Make analyses of efficiency and quality of health care organizations	
6	Develop competence to apply economic concepts and models to the fields of demand for health, demand for health services, demand for health insurance, provision of health insurance and provision of health care.	
7	Develop competence to describe, analyze and critically address economic aspects of health care organizations	
8	Understand fundamentals of markets and the price mechanism with a focus on the healthcare market	
Course Content:		
UNIT I	Health Economics I: The state and scope of health economics, Human Capital and health, Health as a Social Indicator, Health dimensions of development: the health and development	10 hrs

	interdependency,								
UNIT II	Health Economics II: the dual Relationship between Health and Economic Status, Determinants of health: Poverty, Malnutrition and Environmental quality, Components of economic appraisal of health programme.	10 hrs							
UNIT III	Costs and Benefits of health services I :Private benefits and costs of providing health services, the failure of the market to provide essential health services, the provision of health services by the government ,	10 hrs							
UNIT IV	Costs and Benefits of health services II : application of cost benefit analysis to public health and family planning projects, benefits and costs (both private and social ) of training to professional manpower in health sector.	10 hrs							
UNIT V	Valuing Health and health damage I :Human capital approach: measurement of mortality: value of statistical of life, years of life lost; morbidity valuation: cost of illness, Burden of disease: Meaning and significance,	10 hrs							
UNIT VI	DALY: A measure of burden, The DALY framework: Components and postulates, DALY and QALY, the GBD assessment, BD and DALY: A critical appreciation. Health Accounting: National health accounts, from SNA to NHA, Health expenditure efforts.	10 hrs							
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Anthony J. Cuyler and Joseph P. (ed.) (2000), Handbook of Health Economics, Newhouse North-Holland,Elsevier Science									
Reference Books:									
2. Clewar, Ann, and David Perkins. 1998. Economics of Health Care Management. London Prentice Hall.									
3. Folland, Sherman, Allen Goodman, and MironStano, 2001. The Economics of Health and Health Care, New York: MacMillan, Third Edition.									
4. Sherman Folland, Allen C.Gkoodman, and MironStano, (2004), The Economics of Health and Health Care, 4 <sup>th</sup> Edition, Prentice Hall.									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1		3							
CO2			3	3	2	2			
CO3		2	2	2					
CO4	2	2	3	3					
CO5			2	2	2	2			
CO6		2	2	2					
CO7			3	3	3	2			
CO8	2	2							
*1: Low, 2: Medium, 3: High									

<b>Course Name: Natural Resource Economics (ECO 529)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4
		Total: 4
Course Pre-requisites:		
1	Must possess knowledge of elementary microeconomics and environmental economics	
Course Objective:		

This course deals with the theoretical framework of the optimal use of renewable and non-renewable natural resources. It also aims to target the common property issues and role of institutions in handling it.									
Course Outcomes: The students will be able to									
1	Know the extension of general equilibrium to resources and environment.								
2	Understand the concept of steady state harvests and the biological growth function of renewable resources.								
3	Learn the process of arriving at bio-economic equilibrium outcome in an open access fishery and static private property fishery.								
4	Construct the model for efficient and optimal use of non-renewable resources.								
5	Understand the static and dynamic efficiency conditions of the resource optimization problem.								
6	Comprehend about some of the ways in which people's participation can be made effective.								
Course Content:									
UNIT I	Economy wide Modeling: Environmental Input output Analysis, Computable General Equilibrium model for Resources and Environmental Pollution.								10 hrs
UNIT II	Economics of Renewable Resources I: Growth functions and growth rate Optimal Management of Renewable Resources – Cases of Water, Forest, and Fishery:								10 hrs
UNIT III	Economics of Renewable Resources II: Theories of Pricing, Depletion and Augmentation of Resources.								10 hrs
UNIT IV	Economics of Non-Renewable Resources I: Theories of Depletion and Investment for Exploration, Hotelling's rule,								10 hrs
UNIT V	Economics of Non-Renewable Resources II: Pricing and Market. Natural Resource Cartels: Cases of Energy and Non-fuel Minerals								10 hrs
UNIT VI	Economics of Common Property Resources and Institutions: Open Access: Economic Failure and consequences; Management of Open Access; Participatory Approach and Institutions								10 hrs
Internal Assessment:									
CIA 1	Unit I, Unit II								
CIA 2	Assignment submission and/or presentation								
Text Books:									
1. Hanely, Nick, Jason F. Shorgen, and Ben White, Environmental Economics: In Theory and Practice 1999, MacMillian									
2. Roger Permanet. al., Natural Resource and Environmental Economics, Third edition, Pearson (Module I).									
Reference Books:									
3. Clement A Tisdell, Economics of Environmental Conservation, Second Edition, Edward Elgar (Module IV).									
4. Tom Tietenberg, Environmental and Natural Resource Economics, Seventh Edition, Pearson (Module III).									
5. David Anderson, Environmental Economics and Natural Resource Management, Routledge.									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	2	2							
CO2	2	2							
CO3	2	2							
CO4		2	3	3	1	1			
CO5	2	2			2	2			
CO6	2	2			2	2			
*1: Low, 2: Medium, 3: High									

<b>Course: Introduction to Environmental Valuation (ECO530)</b>		
<b>TEACHING SCHEME</b>	<b>EXAMINATION SCHEME</b>	<b>CREDITS ALLOTTED</b>
Theory: 4 hrs per week	End Semester Examination: 60 marks Internal Assessment: 40 marks	Theory: 4 (3 L+ 1 T)
		Total: 4
Course Pre-requisites:		
1	Student must have completed Bachelor's Degree	
2	Must Have completed a basic course on Environmental Economics	
Course Objective:		
	Course Objective: The course aims to disseminate the techniques of valuing the worth of non-market commodities especially environmental goods and service. Several case studies based on different valuation techniques would help the students appreciate the application of these techniques in determining the worth of environmental commodities.	
Course Outcomes: The students will be able to		
1	Discern valuation criterion in environmental economics, including its key principles and methods.	
2	Use microeconomic principles in valuation of environmental good and services	
3	Determine consumer preferences to infer demand for environmental quality.	
4	Apply approaches of non-market valuation of environmental goods and services, and of their strengths, weaknesses and methods of application	
5	Demonstrate theoretical and practical application of different valuation techniques.	
6	Apply cost benefit analysis to decide on a sustainable project.	
Course Content:		
UNIT I	Economic Valuation of Environmental Damage or Benefits I Economic Theory and Measurement of Environmental Benefits. Demand for Environmental Service – Willingness to Pay and Willingness to Accept.	10 Hrs
UNIT II	Economic Valuation of Environmental Damage or Benefits II Concepts of Consumer's Surplus. Compensating and Equivalent Surplus in the context of rationed goods and the Environment.	10 Hrs
UNIT III	Alternative Approaches and Methods of Environmental Valuation – I i. Revealed Preference and Stated Preference Method – Hedonic Pricing, Household Production Function, Travel Cost Method, Defensive cost and Contingent Valuation Method. ii. Case studies to be discussed.	10 Hrs
UNIT IV	Alternative Approaches and Methods of Environmental Valuation –II i. Valuation of Health and Human Life iii. Case studies to be discussed	10 Hrs
UNIT V	Alternative Approaches and Methods of Environmental Valuation –III i. Valuing Environment as Input in Production ii. Case studies to be discussed	10 Hrs
UNIT VI	Environmental Accounting and Measuring Green GDP i. Sustainable Macroeconomic Accounting of National Income and Wealth. ii. Green Accounting. iii. Environmental Cost-Benefit Analysis for Sustainable Development. iv. Rationale of Discounting the Future in the context of Sustainability v. Theory of Krutilla-Fisher Equation for Preservation or Development	10 Hrs
Internal Assessment:		
CIA 1	Unit I, Unit II	
CIA 2	Assignment submission and/or presentation/Written Test	
Text Books:		
6. Kolstad C.D., Environmental Economics, Oxford University Press, 2000.		
Reference Books:		

3. Johansson Per-Olov: The Economic Theory and Measurement of Environmental Benefits, Cambridge University Press, Cambridge, 1987.									
4. Bhattacharya R.N. (ed.), Environmental Economics: An Indian Perspective, Oxford University Press, 2001.									
5. M.N. Murthy Environment, Sustainable Development, and Well-being Valuation, Taxes, and Incentives, OUP May 2009									
PO-CO Compliance Matrix									
	PO1	PO2	PO3	PO4	PO5	PO6			
CO1	1	2			3				
CO2	1	2		3	3	2			
CO3	1	2	1	3	3	2			
CO 4			2	3	3				
CO 5			2	3	3	3			
CO 6	2	2		2	3	2			
*1: Low, 2: Medium, 3: High									