Central University of Himachal Pradesh

Department of Economics

MASTER OF ARTS IN ECONOMICS (MA ECONOMICS)

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Programme Structure and Course Contents

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
[Established under the Central Universities Act 2009]
(Accredited by NAAC with "A+' Grade with CGPA of 3.42)
Dharamshala, District Kangra - 176215 (HP)
www.cuhimachal.ac.in

Programme Outcomes (PO) of Master of Arts in Economics

PO[1] - To develop application capabilities of their theoretical understanding of economics theories

PO[2] - To augment strong conceptual knowledge of economic theory in the context of national and international economies

PO[3] - To make them competitive in both domestic and global perspective towards legal frameworks and environmental regulations with respect to Indian Economy

PO[4] - To enhance their knowledge on effective understanding of economics in line with the needs of changing dynamics of market and industrial sectors, solve economic problems and to evaluate working of economic policies

Programme Specific Outcomes of Master of Arts in Economics

PSO[1] - To foster the students to become competent economists/researchers having comprehensive understanding of theoretical and empirical issues both in traditional and emerging branches in economics.

PSO[2] - To develop basic skills in writing research reports and policy documents to successfully compete in the job market both nationally and internationally.

PSO[3] - To augment the knowledge on economic theory, applied economics, quantitative techniques and teaching application of quantitative techniques to solve empirical problems.

PROGRAMME STRUCTURE

MA Economics

Semester – I

Course Code	Course Name	Credits
Disciplinary/ Interdisciplinary: Major Course (10 Credits)		
ECN 405	Microeconomic Theory	4
ECN 404	Mathematics for Economists	4
Elective Course (2 credits)		
	to be opted from the list of elective courses	2
Disciplinary/ Interdisciplinary: Minor Course (4 credits)		
	to be opted from another Department	4*
Vocational/Skill (4 credits)		
ECN 403	Statistical Methods	4
Indian Knowledge System (IKS) (2 Credits)		
	the course shall be offered at the University level	2
	Total Credit	**20**

Semester – II

Course Code	Course Name	Credits
Disciplinary/ Interdisciplinary: Major Course (12 credits)		
ECN 402	Macroeconomic Theory	4
ECN 453	Development Economics	4
Elective Course (4 credits)		
	to be opted from the list of elective courses	4*
Disciplinary/ Interdisciplinary: Minor Course (4 credits)		
	to be opted from another Department	4*
Vocational/Skill (2 Credits)		
ECN 456	Basic Statistical and Econometric Techniques	2
Indian Knowledge System (IKS) (2 Credits)		
ECN 459	Indian Economic Thought	2
	Total Credit	**20**

Semester – III

Course Code	Course Name	Credits
Disciplinary/ Interdisciplinary: Major Course (4 Credits)		
	to be opted from one of the Elective Specializations	4*
Disciplinary/ Interdisciplinary: Minor Course (4 Credits)		
ECN 455	Research Methodology for Social Sciences	4
Vocational/Skill (4 Credits)		
ECN 466	Econometrics with Statistical Software - I	4
Review of Literature & Research Proposal (8 Credits)		
ECN 468	Review of Literature & Research Proposal Writing (Theory)	4
ECN 469	Review of Literature & Research Proposal Writing (Practical)	4
	Total Credit	**20**

Semester – IV

Course Code	Course Name	Credits
Disciplinary/ Interdisciplinary: Major Course (4 Credits)		
	to be opted from one of the Elective Specializations	4*
Disciplinary/ Interdisciplinary: Minor Course (4 Credits)		
ECN 470	Academic Writing for Economics (Theory)	2
ECN 471	Academic Writing for Economics (Practical)	2
Vocational/Skill (4 Credits)		
ECN 467	Econometrics with Statistical Software - II	4
Dissertation (8 Credits)		
ECN 499	Dissertation (M.A.)	4
ECN 499A	Viva-Voce	4
	Total Credit	**20**

Note: *Students may opt two courses of 2 credits each.

List of Elective Courses

Sr. No.	Course Code	Course Name	Credits
1	ECN 408	Public Economics	4
2	ECN 409	Money & Banking	4
3	ECN 411	Agricultural Economics	4
4	ECN 412	Industrial Economics	4
5	ECN 415	Labour Economics	4
6	ECN 416	Environmental Economics	4
7	ECN 417	Economics of Health	4
8	ECN 424	Economics and Law	4
9	ECN 501	Mathematical Economics	4
10	ECN 502	History of Economic Thought	4
11	ECN 508	Financial & Capital Markets	4
12	ECN 509	International Financial Institutions	4
13	ECN 512	Game Theory	4
14	ECN 513	Institutional Economics	4
15	ECN 524	Economics of Growth	4
16	ECN 526	Financial Econometrics	4
17	ECN 527	Financial Structures and Economic Development	4
18	ECN 528	Industrial Organization	4
19	ECN 529	Economics of Regulation and Competition Law	4
20	ECN 530	Industrial Development in India	4
21	ECN 531	Economics of Technological Change	4
22	ECN 532	Agricultural Development	4
23	ECN 533	Production Economics	4
24	ECN 534	Agricultural Marketing	4
25	ECN 535	Agro-based Industry	2
26	ECN 536	Agricultural Finance	2
27	ECN 537	Agricultural Value Chain	2

28	ECN 539	Monetary Economics	4
29	ECN 540	Financial Economics	4
30	ECN 541	Banking and Finance	4
31	ECN 542	Banking and Insurance	4
32	ECN 543	History of Monetary Policy	4
33	ECN 401	Basics of Microeconomics	2
34	ECN 406	Basics of Macroeconomics	2
35	ECN 434	National Income: Concept and Measurement	2
36	ECN 444	Economics of Microfinance	2
37	ECN 445	Basic Terms and Concepts in Economics	2
38	ECN 449	Issues in Economic Development	2
39	ECN 519	Basics of Game Theory	2
40	ECN 407	Indian Economic Environment	2
41	ECN 456	Basic Statistical and Econometric Techniques	2
42	ECN 457	Economics of Values and Ethics	2
43	ECN 423	International Economics	4
44	ECN 460	Managerial Economics	4
45	ECN 461	Introductory Statistics	2
46	ECN 462	Introductory Probability Theory	2
47	ECN 463	Introductory Econometrics	2
48	ECN 464	Contemporary Issues in Indian Economy I	2
49	ECN 465	Contemporary Issues in Indian Economy II	2
50	ECN 433	Economics of Climate Change	2

ELECTIVE SPECIALIZATION

Specialization I: Public Policy			
S. No.	Course Code	Course Name	Credits
1	ECN 408	Public Economics	4
2	ECN 416	Environmental Economics	4
3	ECN 513	Institutional Economics	4
4.	ECN 424	Economics and Law	4
5.	ECN 458	Indian Economy	4
6.	ECN 409	Money & Banking	4
7.	ECN 411	Agricultural Economics	4
8.	ECN 412	Industrial Economics	4
9.	ECN 415	Labour Economics	4

Specialization II: Financial Economics			
S. No.	Course Code	Course Name	Credits
1	ECN 539	Monetary Economics	4
2	ECN 508	Financial & Capital Markets	4
3	ECN 509	International Financial Institutions	4
4.	ECN 526	Financial Econometrics	4
5.	ECN 527	Financial Structures and Economic Development	4
6.	ECN 540	Financial Economics	4
7.	ECN 541	Banking and Finance	4
8.	ECN 542	Banking and Insurance	4
9.	ECN 543	History of Monetary Policy	4

Specialization III: Industrial Organization			
S. No.	Course Code	Course Name	Credits
1	ECN 528	Industrial Organization	4
2	ECN 529	Economics of Regulation and Competition Law	4
3	ECN 530	Industrial Development in India	4
4.	ECN 531	Economics of Technological Change	4

Specialization IV: Agricultural Economics			
S. No.	Course Code	Course Name	Credits
1	ECN 532	Agricultural Development	4
2	ECN 533	Production Economics	4
3	ECN 534	Agricultural Marketing	4
4.	ECN 535	Agro-based Industry	2
5.	ECN 536	Agricultural Finance	2
6.	ECN 537	Agricultural Value Chain	2

SEMESTER I &III

ECN: 403 STATISTICAL METHODS

Course Code: ECN 403
Course Name: Statistical Methods
Credits: 4
Course objectives:
- To familiarize students with statistical methods;
- To enable students to apply statistical methods in data analysis.

Course Outcomes:
CO1: Understand the different statistical methods and theoretical concepts behind the different methods.
CO2: Apply various statistical tools and techniques to analyse data.
CO3: Develop a deep understanding of the statistical inference

Credit Equivalent: One credit is equivalent to or is defined as given below:
  i.   10 hours of lectures /organized classroom activity /contact hours;
  ii. 5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;
  iii. 15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
1. Mid Term Examination: 25 per cent
2. End Term Examination (External): 50 percent
3. Comprehensive Internal Assessment: 25 percent

COURSE CONTENTS

Unit- I   **(12 hours)**
Introduction of Statistics, Evolution & Scope of Statistics, Frequency distribution, Graphical representation of Frequency Distribution: Histogram, Frequency Polygon; Line graph and Scatter Plot; Measures of Central tendency: Mean, Median, Mode; Measures of Dispersion: Range, Quartile deviations (QD), Mean deviation, standard deviation, Coefficient of variation (CV), Decile, Percentiles; Box Plots

Unit-II   **(12 hours)**
Method of Moments; Measures of Skewness and kurtosis; Correlation: Simple correlation, Partial correlation, Multiple Correlations; Index Numbers: Simple index number, Composite index number, Price Index, Splicing.

Unit- III   **(12 hours)**
Random Variable & Expectation, Rules of Expectation; Probability: Basic concepts of probability, Tree diagram; Probability Distributions: Probability distribution for discrete and continuous variables, Joint probability distribution;

Unit IV   **(12 hours)**
Normal distribution, Binomial distribution, Poisson distribution; Central limit theorem; Inference using normal distribution.

Unit- V   **(12 hours)**

Sampling: Sample and population, Random sampling, sampling distribution and standard error; Tests of significance: Hypothesis testing, Z-test, t-test, F-test, Chi square test, Analysis of Variance (ANOVA).Time Series Analysis: Nature of a time Series, Analysis of trends, Moving average.

Prescribed Text Books:
1. Hamilton, Lawrence C. (1990). *Modern Data Analysis: A First Course in Applied Statistics*. Belmont, CA: Brooks/Cole Publication.
2. Nagar, A. L. and R. K. Das. (1976). *Basic Statistics, 2nd edition*. New Delhi: Oxford University Press.
3. Gupta, S.C. and Kapoor, V.K. (2002). *Fundamentals of Mathematical Statistics, 11thEdition.*New Delhi: Sultan Chand & Sons.
4. Koutsoyiannis, A. (1977). *Theory of Econometrics*. New York: Palgrave.

Supplementary Readings:
1. Clark, Megan J. and John A. Randal (2010). *A First Course in Applied Statistics, 2nd edition*. Pearson Education.
2. Dunn, Dana S. (2001). *Statistics and Data Analysis for the Behavioral Sciences.* New York: McGraw-Hill.
3. Hamilton, Lawrence C. (2003). *Statistics with STATA, 8th edition*. Boston: Brooks/Cole, Cengage Learning.
4. Lewis, Margaret (2011) *Applied Statistics for Economists*, Routledge.
5. Marsh, Catherine (2009). *Exploring Data: An Introduction to Data Analysis for Social Scientists. 2nd Edition*. London: Polity Press.
6. Moore, D.S. and McCabe, G.P. (2003). *Introduction to the Practice of Statistics*. New York: W.H. Freeman & Company.
7. Ott, Lyman R and Longnecker, Michael (2008) *An Introduction to Statistical Methods and Data Analysis, 6th Edition*. Belmont, CA: Brooks/Cole Publication.
8. Peck, Roxy, Chris Olsen, Jay L. Devore. (2012). Introduction to Statistics and Data Analysis, 4th edition. Boston: Brooks/Cole, Cengage Learning.

Course Articulation Matrix of ECN 403

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	3	2		1	2	1
CO2	1	3	4	2		1	1	3
CO3	1	2	1	3		3	3	2

ECN: 404 MATHEMATICS FOR ECONOMISTS

Course Code: ECN 404
Course Name: Mathematics for Economists
Credits: 4
Course Outcomes:
    CO1: Make students capable to understand basic mathematics required for understanding economics.
    CO2: Familiarize students with the use of mathematics as a tool to analyze economic phenomena.
    CO3: Familiarize students with elementary matrix algebra and its application to econometrics and optimization.
    CO4: Understand calculus like optimization of functions of several variables, and be able to apply their knowledge to simple economic problems.

Credit Equivalent: One credit is equivalent to or is defined as given below:
    i.   10 hours of lectures /organized classroom activity /contact hours;
    ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;
    iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
1. Mid Term Examination: 25 per cent
2. End Term Examination (External): 50 percent
3. Comprehensive Internal Assessment: 25 percent

Course Content

Unit- I   **(12 hours)**

Significance of Mathematics in Economics; Real numbers; Set theory; Relations and functions; Economic equilibrium analysis.

Unit- II   **(12 hours)**

Linear models and Matrix Algebra: Matrix operations; Commutative, associative, distributive laws, Transposes, Determinants, Nonsingularity, Laplace expansion, Matrix inversion, Cramer's rule; Applications in Economics: Input-output model.

Unit- III   **(12 hours)**

The derivative: Limit; Continuity; differentiability, Rules of differentiation, Partial differentiation, Total differentials, Total derivatives, Implicit functions.

Unit- IV   **(12 hours)**

Optimization: First and second derivative tests; Derivatives of exponential function and logarithmic function: Applications in Economics: Profit Maximization.Functions of two or more variables: Second order partial derivatives and total differentials; Finding maximum/minimum.

Unit- V   **(12 hours)**

Unconstrained optimization, Quadratic forms, Characteristic roots, Concavity and convexity; Applications in Economics. Constrained optimization: Classical Programming, Lagrange multiplier,

Second order condition; Applications in Economics: utility maximization and consumer demand, Homogeneous function. Rules of integration; Indefinite integrals; Definite integrals; Improper Integrals

Prescribed Text Books:

1. Chiang, Alpha C. and Kevin Wainwright (2005) *Fundamental Methods of Mathematical Economics 4th Edition*. New York: McGraw-Hill/Irwin.
2. Sydsaeter, Knut and Peter J. Hammond (1995) *Mathematics for Economic Analysis*. New Delhi: Pearson Education.

Supplementary Readings:

1. Simon, Carl P. and Lawrence E. Blume (1994). *Mathematics for Economists*. New York: W. W. Norton & Company.
2. Sundaram, Rangarajan K. (1996). *A First Course in Optimization Theory*. New York: Cambridge University Press.
3. Intriligator, Michael D. (2013). *Mathematical Optimization and Economic Theory*. Delhi: PHI Learning Private Limited.
4. Sydsaeter, Knut, Peter J. Hammond, AtleSeierstad and Arne Strom (2008) *Further Mathematics for Economic Analysis 2nd Edition*. Prentice Hall.
5. Vohra, Rakesh V. (2005). Advanced Mathematical Economics. New York: Routledge.
6. Carter, Michael (2001). *Foundations of Mathematical Economics*. Cambridge: MIT Press.
7. Franklin, Joel N. (2003). *Methods of Mathematical Economics: Linear and Nonlinear Programming*, Fixed-Point Theorems. Delhi: PHI Learning Private Limited.

Course Articulation Matrix of ECN 404

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	3	1	4	2		1	-	3
CO2	1	2	4	3		1	1	2
CO3	1	4	1	3		3	1	2
CO4	-	3	2	4		4	2	3

ECN: 440 EVOLUTION OF INDIAN ECONOMIC SYSTEM

Course Code: ECN 440
Course Name: Evolution of Indian Economic System
Credits: 4
Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)
Course Outcomes:
   CO1: Familiarize students with different aspects of evolution of Indian economic system
   CO2: Understand different policies, their rationale and implications for economic growth
Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.
Evaluation Criteria:
1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counseling, Activities and Tutorials (CAT): 25%
   i.   Assignment: 10%
   ii.   Attendance: 5%
   iii.   Presentation : 5%
   iv.   Class Test: 5%

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COURSE CONTENTS

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Unit – I   **(8 Hours)**
Capitalism and Underdevelopment of the Indian Economy: British rule and exploitation of India, British rule and India's Underdevelopment. Growth and Structural change 1857-1947: Measuring and explaining change, globalization and pattern of Trade, saving and investment, public finance, balance of payments great depression
Unit – II   **(15 Hours)**
Agriculture: Importance, role, nature and cropping pattern; productivity and production trends; green revolution; agriculture finance and marketing; Contract Farming; Farmer distress and suicides; agriculture subsidies and food security in India. Industry Sector: role and importance, Industrial policy of 1948, 1956, 1977 and 1991; Industrial licensing policy — MRTP Act, FERA and FEMA; small and cottage Industries; micro, small and medium enterprises. Nature, causes and magnitude of poverty, and unemployment and its measurement. Human resources: Demographic dividend, mobility of population, population policy
Unit – III   **(15 Hours)**
Indian money market: components and characteristics; banking sector in India; financial sector reforms. Indian capital market: components and characteristics; SEBI; capital market reforms; Parallel economy and its implications.Monetary and Financial sector reforms in India
Unit – IV   **(12 Hours)**
International Trade Policies: composition and directions of India's foreign trade; factors determining the balance of payment; Disequilibrium in the balance of payment; Causes, consequences and policy measure; exchange rate policy and the convertibility of Rupee.
Unit – V   **(10 Hours)**
Planning in India: rationale, objective and evaluation of economic planning; 12th five year plan. Rationale of internal and external reforms; Globalization of Indian economy; W.T.O. and its impact on the different sectors of the economy
Prescribed Text Books:
   1. Kaushik Basu (ed.) (2004), *India's Emerging Economy: Performance and Prospects in the 1990s and Beyond*, Oxford University Press, New Delhi

2. Misra S.K. & V.K.Puri (28th Edition) *Indian Economy* – Himalaya Publication house Mumbai.
3. Roy. Tirthankar (2011) *The Economic History of India 1857-1947* , Oxford University Press, New Delhi.
4. Government of India, Economic Survey (Annual), Ministry of Finance, New Delhi
5. Economic and Political Weekly (Various Issues)

Supplementary Readings:
1. Ahluwalia, I J (Eds.) (1998), *India's Economic Reforms & Development* (Essays in Honour of Manmohan Singh), Oxford University Press, New Delhi
2. Jalan B (1992), *The Indian Economy-Problems and Prospects*, Viking, New Delhi Publication, Calcutta.
3. Rudra Dutt and K.P.M. Sundram (2009), *Indian Economy*, S. Chand, New Delhi.
4. Dhingra, I. C. (2001), *The Indian Economy : Environment and Policy*, Sultan Chand & Sons, New Delhi.
5. Rangarajan, C (1998)*Indian Economy: Essays on Money and Finance*, UBS, New Delhi.
6. Chelliah Raja J. (1996), *Towards Sustainable Growth- Essays in Physical and Financial Sector Reforms in India*, Oxford University Press, New Delhi.
7. Kaushik basu (ed.) (2004), *India's Emerging Economy: Performance and Prospects in the 1990s and Beyond*, Oxford University Press, New Delhi.

Course Articulation Matrix of ECN 440

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	2	1	3		2	3	1
CO2	1	2	4	2		-	1	2

ECN 423 INTERNATIONAL ECONOMICS

Course Code: ECN 423
Course Name: International Economics
Course Credit: 4

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Outcomes:

CO1: Familiarize students with basic concepts of international economics

CO2: Enable students understand different principles and theories of international trade

CO3: Enable students understand the impact of different trade policies and their implications towards economic growth

CO4: Facilitate students analyse issues related to Indian trade both in goods and services

Credit Equivalent: One credit is equivalent to or is defined as given below:

i.   10 hours of lectures /organized classroom activity /contact hours;

ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent
2. End Term Examination (External): 50 percent
3. Comprehensive Internal Assessment: 25 percent

COURSE CONTENT

Unit-I: Introduction and Theories of International Trade   (12 hours)

Introduction to International Economics; Trade : Inter– regional and International ; Gains from Trade; The Pure Theory of International Trade: Theories of absolute advantage, Comparative advantage and opportunity costs; Heckscher -Ohlin theory of trade and Leontief paradox; Factor price equalization theorem and Stopler-Samuelson Theorem; The Rybczynski Theorem and Immiserising growth

Unit-II New Approaches to International Trade   (12 hours)

News approaches to trade theory the Product cycle and economies of scale theory; Causes of emergence and measurement of intra-industry trade; Economies of scale; imperfect competition and international trade

Unit-III Tariffs, Economic Integration and Custom Union   (12 hours)

Theory of Tariffs: Effects of tariffs on balance of payments, terms of trade, national income, consumption, output and income distribution; Emergence of and the political economy of Non-tariff

barriers; Optimum and effective rate of tariffs; Forms of economic integration: The Theory of customs union;

Unit-IV Balance of Payment and Exchange Rate (12 hours)

Concepts and components of balance of payments, dis-equilibrium in the balance of payments; The process of adjustment in the Balance of Payments under Gold Standard, fixed exchange rate and flexible exchange rate systems; Elasticity and absorption approaches to balance of payments; Monetary and fiscal measures for adjustment in balance of payments dis-equilibrium ; Monetary approaches to the balance of payments; Foreign trade multiplier with and without foreign repercussions.

Unit-V International Economic Institutions (12 hours)

International Monetary system; Role of Multinational corporations in developing countries with special reference to India ; International economic institutions; Functions and achievements WTO , IMF ,ADB and SAARC; Globalization and Anti-Globalization

Text Books

1. Paul, R. Krugman& Maurice Obstfeld (2000), International Economics: Theory and Policy (5th ed.), Addison-Wesley, Longman, Pearson Education.
2. Sodersten, B.O. and Geoffrey Reed (3rd ed.) (1999), International Economics, The Macmillan Press Ltd. London.
3. Salvatore, D. (1996), International Economics, Prentice Hall, New York

Course Articulation Matrix of ECN 423

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	2	2	1	3		2	3	-
CO2	1	2	4	2		-	1	2
CO3	3	4	1	-		3	1	1
CO4	4	1	2	2		2	3	2

ECN: 450 MICROECONOMICS I

Course Code: ECN 450
Course Name: Microeconomics I
Credits: 4

Course Outcomes:
CO1: Equip students with comprehensive and rigorous theoretical concepts and methodology;
CO2: Enable the students analyzing the behavior of individuals, firms and markets using general, static and partial equilibrium approach.

CO3: Facilitate the students in making individual decision making process amidst situation of scarcity of resources will be better understood by the students

Credit Equivalent: One credit is equivalent to or is defined as given below:

i.   10 hours of lectures /organized classroom activity /contact hours;

ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent

2. End Term Examination (External): 50 per cent

3. Comprehensive Internal Assessment: 25 per cent

COURSE CONTENTS

Unit-I   **(12 hours)**

Scope of micro economics, methodology of economics as a positive science, demand analysis, partial vs. general equilibrium, theory of consumer behaviour, cardinal utility theory, ordinal utility theory, and revealed preference hypothesis, applications of ordinal and revealed preference approaches and measurement of consumer surplus

Unit-II   **(12 Hours)**

Production and cost: Technology and production function, cost minimising equilibrium and choice techniques and scale, expansion path and derivation of long run average cost. Homogeneous production function, sources of various economies and diseconomies of scale. Production cost curves and learning

curves. Saucer shaped and L shape long run average cost curves, Saucer shaped average variable cost curves. Relationship between short run and long run cost curves and engineering cost curves.

Unit –III   (16 Hours)

Market Structures and Pricing Process: Equilibrium of firm and industry under perfect competition; Monopoly; bilateral monopoly; price discrimination, and Monopolistic competition; Excess capacity and imperfect competition.

Unit-IV   (10 Hours)

Oligopoly: Definition and meaning, Cournot model, Bertrand model, Stackelbergduoploly model, Kinked demand model, Chamberlin model. Collusive oligopoly: Cartel, Price leadership with dominant firm and low cost firm, Barometric price leadership. Bain's limit price theory. Marginalism versus average cost pricing. Profit maximisation vsBaumal's Sales maximisation hypothesis.

Unit- V   (10 Hours)

Factor Pricing: The Marginal Productivity Theory of Distribution. The adding up Problem and Euler's theorem. Modern theory of distribution. Theory of Rent: Ricardian and Modern. Theories of Interest: Classical, Theories of Wages: Wage determination under perfect and imperfect competition; wage determination under trade unionism.

Prescribed Text Books:

1. Koutsoyiannis, A. (1985), *Modern Microeconomics*, Macmillan, London.
2. Varian Hal R (1995), *Intermediate Micro Economics: A Modern Approach*, W.W Norton, New York
3. Pindyck, Robert S. and Rubinfeld, Daniel L. (2009), *Micro Economics (7th Edition),* Pearson Education, New Delhi.

Supplementary Readings:

1. Ferguson, C.E. (1968), *Microeconomic Theory*, Cambridge University Press, London.
2. Stigler, G.J.(1996), *The Theory of Price (4th Edition),* Premier Hall, New Delhi
3. Baumol W. J. (1982), *Economic Theory and Operations Analysis, 4th Ed*, Prentice Hall of India, New Delhi.
4. विलास.ए. विलास *व्यष्टिअर्थशास्त्र,* हरियाणाग्रन्थअकादमी, पंचकूला

Course Articulation Matrix of ECN 450

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	3	1	-		2	3	-
CO2	3	1	1	2		-	1	2
CO3	3	4	1	-		3	1	1

ECN 455 RESEARCH METHODOLOGY FOR SOCIAL SCIENCES

Course Code: ECN 455
Course Name: Research Methodology for Social Sciences
Course Credit: 4

Course Outcomes:
- Enable the students to understand theories and all the steps of social science research.
- Provide the students will all the skills so that they can undertake a primary survey based research in the next semester.
- Develop the students to undertake research related to economics by collecting primary data, analysing the data, and interpreting and drawing conclusions from the analysis

Credit Equivalent: One credit is equivalent to or is defined as given below:
i. 10 hours of lectures /organized classroom activity /contact hours;
ii. 5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;
iii. 15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent
2. End Term Examination (External): 50 percent
3. Comprehensive Internal Assessment: 25 percent

<div align="center">COURSE CONTENT</div>

Unit-I   **(10 Hours)**

Science and Social Research (Introduction, Foundations of Social Science, Some Dialectics of Social Research; Scientific Research (Characteristics, Types, and Methods); Concepts, Constructs, Variables, and Types of Measurement Scale

Unit-II   **(15 Hours)**

Formulation of Research Problem (Reviewing Literature, Identification of Research Gap, Research Problem); Hypothesis (Types, Characteristics, Sources, Functions, Testing, and Criticisms); Logic of Inquiry

Unit-III   **(15 Hours)**

Selection of Research Topic (Sources, Focus, Operationalizing Concepts, and Formulating Research Questions); Research Design (Meaning, Goals, Phases, and Types); Research Proposal; Sampling (Meaning, Purpose, and Types)

Unit-IV   **(10 Hours)**

Techniques of Data Collection (Questionnaire, Interview Schedule, Interview, Observation, Case Study, Content Analysis, and Projective Techniques)

Unit-V   **(10 Hours)**

Data Processing; Tabulation; Diagrammatic Representation and Analysis; Measurement and Scaling Techniques; Theory Building (Models, Paradigms and Theories); Statistical Techniques.

Prescribed Text Books:
1. Babbie, Earl (2014). The Practice of Social Research, 13th Edition.Rawat Publications, Jaipur.
2. Ahuja, Ram (2001). Research Methods, Rawat Publications, Jaipur.
3. Kumar, Ranjit (2014). Research Methodology: Step-by-Step Guide for Beginners. Sage Publication India Pvt Ltd.

Supplementary Readings:
1. Neuman, Lawrence W. (2006) Social Research Methods: Quantitative and Qualitative Approaches, Sixth edition. New Delhi: Pearson Education.
2. Field, Andy (2014). Discovering Statistics Using IBM SPSS Statistics, 4th Editions. Sage Publications India Pvt Ltd, New Delhi.

Course Articulation Matrix of ECN 455

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	3	1	2	4		1	3	2
CO2	1	2	3	-		1	1	2
CO3	1	4	1	3		3	2	1

ECN 521 MACROECONOMICS II

Course Code: ECN 521
Course Name: Macroeconomics II
Course Credit: 4
Course Outcomes:

    CO1: Edify the students various theories of macroeconomics.
    CO2: Develop the students to better understand various macroeconomic economic problems.
    CO3: Sound understanding of theories of growth, inflation, saving, investment, and unemployment
    will help students to critically analyse related government policies.

Credit Equivalent: One credit is equivalent to or is defined as given below:

    i.   10 hours of lectures /organized classroom activity /contact hours;
    ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;
    iii.   15 hours of other workload such as independent individual/group work; obligatory/
            optional work placement; literature survey/ library work; data collection/ field work;
            writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent
2. End Term Examination (External): 50 percent
3. Comprehensive Internal Assessment: 25 percent

<div align="center">Course Content</div>

Unit – I   **(10 Hours)**
Business Cycles I:- Samuelson's Model, Hicks and Goodwin's Model, Austrian Business Cycle Theory.
Unit-II   **(10 Hours)**
Business Cycles II:- Monetarists Interpretation of Business Cycles; Real Business Cycle Theory: A Baseline Real Business Cycle Model, Household Behavior, A Special Case of the Model, Solving the Model in the General Case, Empirical Applications of Real Business Cycle Model

Unit-III   **(12 Hours)**
Nominal Rigidity:- Exogenous Nominal Rigidity: A Baseline Case: Fixed Prices; Price and Wage Rigidity; Departures from Perfect Competition in the Goods and Labour Markets; Usable Model with Exogenous Nominal Rigidity
Unit-IV   **(15 Hours)**
Microeconomic Foundations of Incomplete Nominal Adjustment: Model of Imperfect Competition and Price Setting; Real Rigidity; Coordination Failure Models and Real Non-Walrasian Theories; Taylor model; Lucas Imperfect Information Model, policy ineffective theorem.
Unit-V   **(12 Hours)**
Dynamic Stochastic General-Equilibrium Models of Fluctuations:- Dynamic New Keynesian Models; Predetermined Prices: The Fischer Model; Fixed Prices: The Taylor Model; The Calvo Model and the New Keynesian Phillips Curve; State-Dependent Pricing: Caplin-Spulber Model; Models of Staggered Price Adjustment with Inflation Inertia.

Prescribed Text Books:

1. Romer, David. 2011. *Advanced Macroeconomics, 4th edition*, McGraw-Hill Higher Education.
2. Blanchard, Olivier Jean, Fischer Stanley. 1989. *Lectures on Macroeconomics*, MIT Press, London
3. Knoop, Todd A. 2010. R*ecessions and Depressions: Understanding Business Cycles, 2nd edition*, Praeger, Westport, CT
4. Hayek, F. A. 1933. Monetary Theory and the Trade Cycle. Sentry Press, New York. [URL: https://mises.org/library/monetary-theory-and-trade-cycle-0]

Supplementary Readings

1. Alvarez, F., and R. Shimer. 2011. "Search and Rest Unemployment." Econometrica, 79(1) p. 75–122.
2. Bernanke, B., and M. Gertler, 1989, "Agency costs, net worth, and business fluctuations." American Economic Review, 79, p. 14-31.
3. Burnside, C., Eichenbaum, M., and S. Rebelo, 1993. "Labor Hoarding and the Business Cycle." Journal of Political Economy, 101, p. 245-273.
4. Faig, M., and Z. Li, 2009. "The Welfare Costs of Expected and Unexpected Inflation." Journal of Monetary Economics, 56(7), p. 1004-1013.
5. Greenwald, B. and J. Stiglitz, 1993. "Financial market imperfections and business cycles." Quarterly Journal of Economics, 108, p. 77-114.
6. Greenwood, J., Hercowitz, Z. and G. W. Huffman, 1988. "Investment, Capacity Utilization, and the Real Business Cycle." American Economic Review, 78: 402-417.
7. Hall, R. 2005. "Employment Fluctuations with Equilibrium Wage Stickiness." American Economic Review, 95(1) p. 50–65.
8. Hansen, G. D., 1985. "Indivisible Labor and the Business Cycle." Journal of Monetary Economics, 16, p. 309-327.
9. Kiyotaki, Nobuhiro. and John H. Moore, 1997. "Credit cycles." Journal of Political Economy, 105, p. 211-248.
10. Kydland, F. E. and E. C. Prescott, 1982. "Time to Build and Aggregate Fluctuations." Econometrica, 50, p. 1345-1370.
11. Lagos Ricardo, and Randall Wright, 2005. "A Unified Framework for Monetary Theory and Policy Analysis," Journal of Political Economy, 113(3): 463-484.
12. Ljungvist, Lars and Thomas J. Sargent, 2004. Recursive Macroeconomic Theory, MIT
13. Long, J. B. and C. I. Plosser, 1983. "Real Business Cycles." Journal of Political Economy, 91, p. 39-69.
14. Lucas, R. E. Jr., 1972. "Expectations and the Neutrality of Money." Journal of Economic Theory, 4, p. 103-124.
15. Lucas, R. E. Jr., 1973. "Some International Evidence on Output-Inflation Tradeoffs." American Economic Review, 63, p. 326-334.
16. Lucas, R.E., 1978. "Asset prices in an exchange economy." Econometrica, 46, p. 1429-1445.
17. Mehra, R. and E.C. Prescott, 1985. "The equity premium: a puzzle," Journal of Monetary Economics, 15, p. 145-161
18. Shimer, R. 2012. "Reassessing the Ins and Outs of Unemployment." Review of Economic Dynamics 15(2) p. 127–48.
19. Stockey, Nancy und Lucas, Robert E., with E. Prescott, 1989. Recursive Methods in in Economic Dynamics, Harvard University Press, Cambridge MA, London
20. Thomas F. Cooley (ed.), 1997. *Frontiers of Business Cycle Research*, Princeton University Press

Course Articulation Matrix of ECN 521

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	3	4		1	1	3
CO2	1	2	3	1		1	1	-
CO3	2	1	3	4		1	3	1

ECN 522 ECONOMETRICS II

Course Code: ECN 522

Course Name: Econometrics II

Course Credit: 4

Credit Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course outcomes:

CO1: Familiarize the students with the econometrics theory;
CO2: Develop the students to understand applications of econometric methods.
CO3: Estimate advanced econometric models for the purpose of testing theories and/or forecasting.

Credit Equivalent: One credit is equivalent to or is defined as given below:

i.   10 hours of lectures /organized classroom activity /contact hours;

ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent

2. End Term Examination (External): 50 per cent

3. Comprehensive Internal Assessment: 25 per cent

Course Content

UNIT-I   **(10 Hours)**

Qualitative Response Regression Models: Nature of Qualitative Response Regression Models. Description and Estimation of Linear Probability, Logit, Probit.

UNIT-II   **(15 Hours)**

Simultaneous Equations Models (SEM): Nature of SEM's Simultaneous Equation Bias, Identifications Problem. Rank and Order Conditions. Testing Identification of Economic Models. Estimation of SEM'S : Instrumental Variable (IV) Method, ILS, 2SLS Methods.

UNIT-III (15 Hours)

Time Series Analysis: Testing Causality in Economics: Granger Causality

Test. Stationary, Test of Stationary, Spurious Regression, Unit Roots, Dickey-Fuller Test, Cointegration, Engle Granger Test.

Forecasting: AR, MA and ARIMA processes, Box Jenking Methodology.

Vector Auto Regression (VAR) Model, Introduction, Formulation and Estimation. Impulse Response function, Variance Decomposition.

UNIT-IV (10 Hours)

Panel Data Models: Introduction: Advantages and Issues Involved in Utilizing Panel Data.

Simple Panel Data Models: Fixed Effects Models, Random Effects Models. Hausman Test. Dynamic Panel Model: Random, Coefficient Model.

UNIT-V   [For assignment only] (10 Hours)

Estimation and Interpretation of Qualitative response, Simultaneous equation models, Time Series and Panel data models using Standard Statistical/Econometric Packages [SPSS/E-Views/STATA/Gretl].

Prescribed Text Books:

1. Bhaumik, Sankar Kumar (2015) Principles of Econometrics: A Modern Approach Using E-Views, Oxford University Press, New Delhi.
2. Dougherty, Christopher (2011) Introduction to Econometrics 4th Edition. New York: Oxford University Press.
3. Enders, W. (2013), Applied Econometric Time Series, 3rd edition, John Wiley and Sons, New Delhi.
4. Wooldridge, Jeffrey M. (2010) Econometric Analysis of Cross Section and Panel Data 2nd Edition. MIT Press.
5. Greene, W.H. (2003), Econometric Analysis, fifth edition, Pearson Education Inc.

Supplementary Readings:
1. Hamilton, J. D. (1994), Time Series Analysis, Princeton University Press,
2. Goldberger, A. S. (1998). Introductory Econometrics. Cambridge: Harvard University Press.
3. Hsiao, Cheng (2002). Analysis of Panel Data. Cambridge University Press.

Course Articulation Matrix of ECN 522

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	3	4		1	1	3
CO2	1	2	3	1		1	1	-
CO3	2	1	3	4		1	3	1

ECN: 502 HISTORY OF ECONOMIC THOUGHT

Course Code: ECN 502

Course Name: History of Economic Thought

Credits: 4

Course Outcomes:
   CO1: Enable students to understand the development of economic theory.
   CO2: Develop the skills of abstract thinking among students.
   CO3: Understand the current economic policies would be done in a better way by the students.

Credit Equivalent: One credit is equivalent to or is defined as given below:

   i.   10 hours of lectures /organized classroom activity /contact hours;

   ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

   iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent

2. End Term Examination (External): 50 per cent

3. Comprehensive Internal Assessment: 25 per cent

COURSE CONTENTS

Unit – I   (8 Hours)

Pre Adamite Economics: Mercantilism, Precursors of Classical thought, Physiocracy

Unit-II   (16 Hours)

Adam Smith: Measurement and Cause of Value, Division of Labor, Cost of Production, Wages, Rent, Invisible Hand; David Ricardo: Diminishing Returns and Theory of Rent, Theory of Value, The Fundamental Theorem of Distribution, Comparative advantage; Say's Law and Classical Monetary Theory: Say's Law of Market; Malthus: Malthus's Theory of Population; Malthus's Theory of Gluts; John Stuart Mill: Value theory, International trade, The wage fund

Unit-III   (12 Hours)

Marxian Economics: Value, Surplus Value, Economic Surplus, Historical Transformation, The Laws of Motion of Capitalism, The Law of Falling Rate of Profits, The Reproduction Schema.

Unit-IV **(12 Hours)**

The Marginal Revolution: The Emergence of Marginal Utility, Jevons, Menger and Walras; Cournot on Profit Maximization, Duopoly Theory; Marshallian Economics: Utility Theory, Welfare Economics, Cost and Supply; Marginal Productivity and Factor Prices: The Demand for Factor of Production, Product Exhaustion, The Theory of Profit, Aggregate Production Function, Technical Change and Process Innovation.

Unit-V **(12 Hours)**

The Austrian School: Bohm-Bawerk's Theory of Interest, Fisher on Interest, Allocation of Resources, Socialism and Freedom; General Equilibrium and Welfare Economics: Walrasian General Equilibrium, Paretian Welfare Economics.

Prescribed Text Books:

1. Landreth, Harry and David C. Colander (2002) History of Economic Thought, 4th edition, Houghton Mifflin Company, Boston.
2. Blaug, Mark (1997). Economic Theory in Retrospect, 5th ed. Cambridge University Press, Cambridge.
3. Buchholz, Todd G. (1999). New Ideas from Dead Economists, Penguin Group, New York.
4. Heilbroner, Robert L. (2003). The Worldly Philosophers, updated 7th edition, Simon and Schuster, New York.
5. Schumpeter, Joseph (1954). History of Economic Analysis, Oxford University Press, New York.

Supplementary Readings:

1. Backhouse, Roger E. (2002). The Ordinary Business of Life, Princeton University Press.
2. Medema, Steven G., and Warren J. Samuels (2003). The History of Economic Thought: A Reader. Routledge, London.
3. Robbins, L. C. (1998). AHistory of Economic Thought: The LSE Lectures, Princeton University Press, Princeton NJ.
4. Samuelson, Paul A., and William A. Barnett, ed. (2007). Inside the Economist's Mind: Conversations with Eminent Economists, Wiley.
5. Ekelund, Robert B., Jr. and Robert F. Hébert (2007). A History of Economic Theory and Method. 5th ed. Waveland Press.

Course Articulation Matrix of ECN 502

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	3	2	1	3		1	3	3
CO2	-	`	2	4		2	1	3
CO3	1	1	2	3		2	1	-

Semester II and IV

ECN: 451 MACROECONOMICS I

Course Code: ECN 451
Course Name: Macroeconomics I
Credits: 4

Credit Equivalent: One credit is equivalent to or is defined as given below:

  i.   10 hours of lectures /organized classroom activity /contact hours;

  ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

  iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Course Outcomes:

  CO1: Establish basic concepts on macroeconomics
  CO2: Enable students understanding functioning of the macro economy
  CO3: Developing critical skills to understand the implications of macroeconomic policies
  CO4: Apply the macroeconomics theories to understand the macro-economic trends

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
i.   Mid Term Examination: 25%
ii.   End Term Examination (External): 50%
iii.   Comprehensive Internal Assessment: 25%

COURSE CONTENTS

UNIT I   **(10 Hours)**

Evolution of Macroeconomics, Schools in Macroeconomics; Basic models of Macroeconomics; National income: concepts and measurement. Macroeconomic Theories of Consumption: Relative income, Permanent income, Life cycle income hypotheses and Hall Approach. Role of liquidity constraint and Pigou effect and real balance effect on consumption demand

UNIT II   **(15 Hours)**

Macroeconomic Theories of Investment: The Keynesian approach, Accelerator theory, Neo-classical theory of investment, Tobin's Q theory of investment. The Demand for Money: Keynesian approach, Baumol and Tobin's contribution and Friedman's restatement of quantity theory of money. The neutrality of money

UNIT III   **(15 Hours)**

Derivation, properties and shifts in IS and LM curves and simultaneously equilibrium in the goods and money market. Effects of monetary and fiscal policies under different cases in IS and LM framework including derivation of aggregate demand curve.

Demand and supply of labour: The Classical and Keynesian views. Keynesian and Classical model of income determination. Wage price flexibility. Expectations and aggregate supply curve. The classical and Keynesian dichotomies and their resolution by Patinkin's real balance effect and through IS-LM model respectively. Monetary, fiscal and Income Policies. Rational expectations hypothesis; Rational Expectations and demand policy and policy ineffectiveness proposition

UNIT IV   **(10 Hours)**

Inflation; Theories of Inflation: Demand-pull and cost-push inflation; short and long-run Phillips curve analysis; Expectation Augmented Philips curve. Wages, prices and productivity. The Keynesian, the monetarist and the rational expectations analysis

UNIT V   **(10 Hours)**

Keynesian and monetarist perspectives on monetary, fiscal and income policies. Stabilization policies: Rules *vs*. Discretion: lagged effects of policies and role of expectations. Crowding out effect and government budget constraint. Rational expectations and effectiveness of stabilization policies.

Prescribed Text Books:

1. Branson, W.H., (2005), *Macro-Economic Theory and Policy*, East-West Press Private Limited, New Delhi.
2. Dornbusch, R. and S. Fischer (2005) *Macroeconomics*, 4th Edition, McGraw-hill Education Private limited, New Delhi.
3. Blanchard, Oliver (2007), *Macroeconomics*, Pearson Education, New Delhi.
4. Shapiro, Edward (1984), *Macroeconomic Analysis*, Galgotia Publication, New Delhi

Supplementary Readings:

1. Errol D Souza (2012), *Macroeconomics*, Pearson, New Delhi, New York.
2. Rakshit, M. (1998), *Studies in Macroeconomics in Developing Countries*, Oxford University Press, New Delhi
3. Andrew B. Abel, Ben S Bernake and Dean Croushore(2011), *Macroeconomics*, Indian Edition, Pearson. New Delhi, New York
4. Richard T. Froyen (2012), *Macroeconomics: Theories and Policies*, Pearson.

Course Articulation Matrix of ECN 451

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	2	1	3		1	2	3
CO2	2	-`	2	4		2	1	1
CO3	1	1	2	3		3	1	-
CO4	1	3	2	4		2	1	3

Course Code: ECN 452
Course Name: Econometrics I
Credits: 4

Credit Equivalent: One credit is equivalent to or is defined as given below:

  i.   10 hours of lectures /organized classroom activity /contact hours;

  ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

  iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Course Outcomes:

CO1: Familiarize the students with the econometrics theory;
CO2: Enable the students to understand applications of basic econometric methods.
CO3: Understand the econometric techniques to examine cross-sectional data and test the economic arguments.
CO4: Enable the students to avoid/correct problems in econometric modelling

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
i.   Mid Term Examination: 25%
ii.   End Term Examination (External): 50%
Comprehensive Internal Assessment: 25%

COURSE CONTENTS

UNIT I   **(15 Hours)**

Introduction: Meaning and rationale of Econometric as a separate discipline, Methodology, Types of Econometrics, Nature and Sources of Data used in Econometric Analysis. Functional Forms of Regression Models. Estimation of the Two Variable and Multiple Regression Models with the Method of Ordinary Least Squares (OLS); BLUE Properties and Testing of Hypothesis, Maximum Likelihood Estimation (MLE).

UNIT II   **(10 Hours)**

Nature, Consequences, Detection & Remedial Measures for the problems of: Multicollinearity, Hetroscedasticity and Autocorrelation.

UNIT III   **(10 Hours)**

Specification Errors, Tests of Specification and Misspecification, Errors of Measurement, Encompassing. Models and Criteria for Model Selection. Dummy Variables: Introduction and Uses [as independent variables].

UNIT IV   **(15 Hours)**

Distributed Lag and Autoregressive Models: Introduction and Nature of Distributed Lag (DL) & Auto Regressive (AR) Model. Koyck Approach for Estimation of DL & AR Models Rationalization of Koyck Approach by Adaptive Expectation and Partial Adjustment Hypothesis; Almon's Polynomial Approach

UNIT V   **[for assignment only]**   **(10 Hours)**

Estimation of Regression Models using Standard Statistical/Econometric Packages [SPSS/E-View/STATA/Gretl/R]*. Interpretation of Estimates and Hypothesis Testing. Testing for and redressal of Multicollinearity, Hetroscedasticity, Autocorrelation using Computer Techniques.

* Note: Choice of the software shall be based on availability.

Prescribed Text Books:

1. Dougherty, Christopher (2011) *Introduction to Econometrics 4th Edition*. New York: Oxford University Press.
2. Koutsoyiannis, A. (1977). *Theory of Econometrics*. Macmillan Publishers
3. Wooldridge, Jeffrey M. (2010) *Econometric Analysis of Cross Section and Panel Data 2nd Edition*. MIT Press.
4. Greene, W.H. (2003), *Econometric Analysis*, fifth edition, Pearson Education Inc.

Supplementary Readings:

1. Goldberger, A. S. (1998). *Introductory Econometrics*. Cambridge: Harvard University Press.
2. Hill, R. Carter, William E. Griffiths and Guay C. Lim (2011) *Principles of Econometrics 4th Edition*. Wiley.
3. Hsiao, Cheng (2002). *Analysis of Panel Data*. Cambridge University Press.
4. Mukherjee, Chandan, Howard White and Marc Wuyts (1998) *Econometrics and Data Analysis for Developing Countries*. New York: Routledge.
5. Gujarati, Damodar N. (2002). *Basic Econometrics 4th Edition*. McGraw Hill
6. Maddala, G. S. (2005). *Introduction to Econometrics*. New Delhi: Wiley India Pvt. Ltd.

Course Articulation Matrix of ECN 452

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	2	1	1	1		1	2	3
CO2	1	1	3	4		-	1	1
CO3	3	2	1	2		2	1	-
CO4	1	4	2	4		1	1	2

ECN: 453 DEVELOPMENT ECONOMICS

Course Code: ECN 453
Course Name: Development Economics
Credits: 4

Credit Equivalent: One credit is equivalent to or is defined as given below:

i.   10 hours of lectures /organized classroom activity /contact hours;

ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Course Objectives:

CO1: Familiarize students with basic concepts of growth and development.
CO2: Understand different strategies and models of economic growth & development.
CO3: Understand various issues related to development.
CO4: Able to apply growth and development theories to devise plans for solving these issues.

Course Outcome:

      The course shall enable students to understand the growth and development issues. The students will be able to apply growth and development theories to devise plans for solving these issues.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
i.   Mid Term Examination: 25%
ii.   End Term Examination (External): 50%
iii.   Comprehensive Internal Assessment: 25%

<div align="center">

COURSE CONTENTS

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UNIT I   **(10 Hours)**

The Concept Economic Development, The Development Imperative, Measuring Economic Growth & Development, Historical Perspective of Development, The Roots of Development Theory

UNIT II   **(15 Hours)**

Classical Theories (Adam Smith, Malthus, Ricardo, Marx), Neoclassical model of Solow and Swan

UNIT II   **(12 Hours)**

Endogenous Growth Theories and New Strategies for Development, Theory of Big-Push, Balanced and Unbalanced Growth, Growth with unlimited labor supplies, Stages of Growth Theory

UNIT IV   **(13 Hours)**

Initial Structural Transformation and Industrialization Process, Agriculture and Development

UNIT V   **(10 Hours)**

Population, Education, and Human Capital; Technology and Development; The International Monetary Fund, The World Bank, and Foreign Aid

Prescribed Text Books

1. Barro, Robert J. and Martin, Xavier Sala I (2009). *Economic Growth*, 2nd Edition, PHI Learning Private Ltd., New Delhi.

2. Chenery Hollis and Srinivasan, T.N. (1988). *Handbook of Development Economics (eds) Volume 1*, North Holland Publications.

3. Cypher, James M. and Dietz, James L (2009). *The Process of Economic Development, 3rd Edition*, Routledge, Oxon.

Supplementary Reading:

1. Basu, Kausik (1998), *Analytical Development Economics*, Oxford India Paperbacks, New Delhi.

2. Ghatak, Subrata (2003). Introduction to Development Economics, 4th Edition, Routledge Taylor & Francis Group.

3. Higgins, B. (1966), *Economic Development*, Central Book Depot, Allahabad.

4. Journal of Development Economics.

5. Sen, Amartya (1999), *Development vs. Freedom*, Oxford University Press, London.

6. Thirwall, A. P. (2006). *Growth and Development with Special Reference to Developing Economies*, 8th Edition, Palgrave Macmillan, New York.

7. Todaro, M. P. and Smith, S. C. (2003). *Economic Development*, Pearson Education Limited, New Delhi.

Course Articulation Matrix of ECN 453

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	3	1	2	1		1	1	1
CO2	1	2	1	3		1	2	2
CO3	2	-	1	1		2	1	3
CO4	1	3	4	4		3	-	2

Course Code: ECN 520
Course Name: Microeconomics II
Credits: 4
Credit Equivalent: One credit is equivalent to or is defined as given below:

i. 10 hours of lectures /organized classroom activity /contact hours;

ii. 5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

iii. 15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Course Outcomes:

CO1: Familiarize students with the advanced topics in microeconomics.
CO2: Understand the students to general equilibrium and welfare economics.
CO3: Introduction to game theory to students
CO4: Able to use game theory and the welfare economics to examine the real world problems and arrive at optimum solutions.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
i. Mid Term Examination: 25%
ii. End Term Examination (External): 50%
iii. Comprehensive Internal Assessment: 25%

COURSE CONTENTS

UNIT I **(12 Hours)**

Games, Rules of the Game, Extensive Forms and Strategic or Normal Form of Game, Morgenstern Utility Function, Some Examples, Strategic Form Games and its Case Study on Art Auction, Dominance Strategy Solution, Dominance Solvability

UNIT II **(15 Hours)**

The Concept and Examples of Nash Equilibrium, Cournot Model and Its Nash Equilibrium, Variants of Nash Equilibrium and Stackelberg Model, The Commons Problem, Defintion and Examples of Mixed Strategy, Mixed Strategy and Pure Strategy, Mixed Strategy and Bluffing, Mixed Strategy and Nash Equilibrium, Application of Mixed Strategies (Natural Monopoly and Bankruptcy Law), Zero-Sum Games

UNIT III **(10 Hours)**

Introduction to Welfare Economics, Pigovian Approach, Pareto Optimal Conditions, Two Fundamental Welfare Theorems, Social Welfare Function, Welfare Criteria-Kaldor, Hicks, Scitovsky, Bergson-Samuelson, Gorman's Intransitivity Problem

UNIT IV **(13 Hours)**

Factors for Sub-Optimal Welfare- Market Failure, Imperfect Competition, Natural Monopoly, Imperfect Knowledge, Uncertainty, Non-existent and Incomplete Market, Externality and its Types, Coase Theorem, Scitovsky Contour for Public Goods, Inefficient Provision for Public Goods, Lindahk Formula, Theory of Second Best, Arrow's Impossibility Theorem, Rawl's Theory of Justice, Equity-Efficiency Trade-Off

Unit-V **(10 Hours)**

Pure Exchange Model, Walrasian Equilibrium, Brouwer's Fixed Point Theorem, Mechanism for Attaining Walrasian Equilibrium-Stability and Uniqueness, Competitive Equilibrium and Pareto Efficiency

Prescribed Text Book

1. Dutta, Prajit K. (1999) *Strategies and Games: Theory and Practice*, MIT Press, Cambridge.

Supplementary Readings:

1. Mas-colell, Andreu, Michael D. Whinston, Jerry R. Green (2006) *Microeconomic Theory*, Oxford University Press, New Delhi.
2**.** Varian Hal R (2009), *Microeconomic Analysis, 3rd edition*, W.W. Norton, NewYork
3. Materials Provided by the teacher on Welfare Economics and General Equilibrium

   Course Articulation Matrix of ECN 520

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	4	2	2	1		1	1	1
CO2	1	1	3	3		2	2	2
CO3	3	1	1	2		2	3	1
CO4	1	3	1	2		3	1	2

Course Code: ECN 408
Course Name: Public Economics
Credit: 4

Credit Equivalent: One credit is equivalent to or is defined as given below:
i. 10 hours of lectures /organized classroom activity /contact hours;
ii. 5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;
iii. 15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Course Outcomes
CO1: Familiarize students with basic concepts of public economics.
CO2: Enable students to understand different principles and theories of public economics.
CO3: Enable students to understand changing scenario of revenue and expenditure.
CO4: Facilitate students to understand changing role of government in the changed economic dispensations.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
i. Mid Term Examination: 25%
ii. End Term Examination (External): 50%
iii. Comprehensive Internal Assessment: 25%

COURSE CONTENTS

UNIT I (10 hours)

Introduction and Background to public finance; Theoretical Tools of Public Finance; Budget Analysis and Deficit Financing: Government Budgeting, Measuring the Budgetary Position of the Government.

UNIT II
(10hours)
Externalities: Problems and Solutions: Externality Theory , Private-Sector Solutions to Negative Externalities, Public-Sector Remedies for Externalities; Externalities in Action: Environmental and Health Externalities

UNIT III (10 hours)

Public Goods: Optimal Provision of Public Goods, Private Provision of Public Goods, Public Provision of Public Goods; Cost-Benefit Analysis: Measuring the Costs of Public Projects, Measuring the Benefits of Public Projects; Unanimous Consent on Public Goods Levels, Mechanisms for Aggregating Individual Preferences, Representative Democracy

UNIT IV (15 hours)

Taxation: Types of Taxation, Measuring the Fairness of Tax Systems, Defining the Income Tax Base; The Equity Implications of Taxation; Tax Inefficiencies and Their Implications for Optimal Taxation, Taxation on savings; Fundamental Tax reform.

UNIT V **(15 hours)**

Public Expenditure: rationale for the growth of public expenditure; Wagner's law of increasing state activities, Wiseman-Peacock hypothesis; cost benefit analysis, shadow pricing, discounting and cost of capital, risk and uncertainty;

Prescribed Text Books:

1. Gruber, Jonathan(2010) *Public Finance and Public Policy* , New York: Worth Publisher
2. Atkinson, A., and J. Stiglitz (1980) *Lectures on Public Economics*. New York, NY: McGraw Hill

Supplementary Readings:

1. Cullis, John. And Jones. Philip, *Public Finance and Public Choice Analytical Perspectives, Third edition* , Oxford university press.
2. Musgrave, R.A. and P.B. Musgrave, *Public Finance in Theory and Practice Fifth Edition*, Tata-McGraw Hill Education Private Ltd, New Delhi.

Amaresh Bagchi, (2005) *Readings in Public Finance*, Oxford University Press, New Delhi.

Course Articulation Matrix of ECN 408

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	2	1		-	1	1
CO2	2	1	1	1		3	2	2
CO3	3	3	2	2		1	3	1
CO4	4	4	1	4		3	1	2

ECN: 411 AGRICULTURAL ECONOMICS

Course Code: ECN 411
Course Name: Agricultural Economics
Credit 4
Credit Equivalent: One credit is equivalent to or is defined as given below:

    i.   10 hours of lectures /organized classroom activity /contact hours;

    ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

    iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Course Outcomes:

CO1: Understand the various concepts involved in agricultural economics, production relations and also applicability of those relations in agriculture.
CO2: Helps the students to know the methodology involved in estimation of cost of production of principle crops of India and their applicability in making policy decision.
CO3: Know role of agriculture in Indian economy as well as various issues related to Indian agriculture at international level.
Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
i.   Mid Term Examination: 25%
ii.   End Term Examination (External): 50%
iii.   Comprehensive Internal Assessment: 25%
COURSE CONTENTS

Unit-I: **(12 hours)**

Agricultural Economics: Meaning, scope and role in economics development; Agricultural Production Economics; Objectives, basic concepts in production economics; Features of agricultural production; Laws of returns.

Unit-II: **(12 hours)**

Factor-Product Relationship; stages of production function, determinants of optimum level of output: Factor-Factor relationship; Iso-quant, types of factor substitution, Iso-cost line, least cost combination: Product-Product Relationship; Production possibility curve, relationship among the products, MRPS. Return to scale;

Unit-III: **(12 hours)**

Agricultural price policy, recommendations on agricultural price policy, administered prices: Farm costs; Cost concepts (CACP), estimation of cost of cultivation: Agricultural prices, functions of prices, instability in prices and measurement of instability.

Unit-IV: **(12 hours)**

Role of agriculture in Indian economy, nature of India's agriculture, cropping pattern in India: Agricultural growth in India since 1950-51, Agricultural Inputs (Seeds, Fertilizers, Irrigation), land reforms in India, Progress of Green revolution in India and its impact on production.

Unit-V: (12 hours)

Capital Formation in Indian Agriculture, Policies for agriculture and rural development; Agriculture: Trends in investment: WTO and Indian agriculture: Challenges and priorities in the global economy; Agricultural growth concerns; Trends in Agricultural Trade in the context of the reforms.

Prescribed Text Books

1. Heady,E. O.(1952) *Economics of Agricultural Production and Resource Use*, Prentice-Hall of India Pvt. Ltd, NewDelhi.

2. Schultz,T. W.(1969), *Transforming Traditional Agriculture*, Lyall Book Depot, Ludhiana.

3. Himmat Singh (2001), *Green Revolution Reconsidered*, Oxford University Press, New Delhi

4. R. Cohen (1968), *The Economics of Agriculture*, Butler & Tanner Limited, Frome and London, London

5. Rao, C. H. Hanumantha (2005), *Agriculture, Food Security, Poverty and Environment*, Oxford University Press, New Delhi

6. L. S. Subba Reddy, P. Raghu Ram, T. V. Neelakanta Satry and I Bhavani Devi (2004), *Agricultural Economics*, Oxford IBH Publishing Co. Pvt. Ltd., New Delhi

7. Bhalla, G S & Gurmail Singh (2001), *Indian Agriculture: Four Decades of Development*, Sage Publication, New Delhi

8. Bhalla, G S (2007*), Indian Agriculture since Independence*, National Book Trust, India.

9. Basu, Kausik & Maertens, Annemie (Ed.) (2010), *The Concise Oxford Companion to Economics in India*, Oxford University Press.

Supplementary Readings

1. Sharma, H. R. (1995), *Agrarian Relations in India: Patterns and Implications*, Har-Anand Publication, New Delhi.

2. Bruce F. Johnston and John W Mellor (1962), 'Role Agriculture in Economic Development *American Economic Review*, Vol.51, No. 4, Sept, pp. 566-593

3. Sharma, H. R. (1994), 'Distribution of Landholdings in Rural India, 1953-54 to 1981-82: Implications for Land Reforms', *Economic and Political Weekly,* Vol. XXIV, No. 13, pp. A12-A25.

5. Sharma, H. R. (2010), 'Magnitude, Structure and Determinants of Tenancy in Rural India: A State Level Analysis', *Indian Journal of Agricultural Economics*, Vol. 65, No. 1, pp. 80-100

Course Articulation Matrix of ECN 411

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	2	1		1	1	1
CO2	4	4	3	2		3	2	2
CO3	2	3	2	2		2	3	3

ECN: 446 FIELD WORK AND REPORT WRITING

Course Code: ECN 446
Course Name: Field Work and Report Writing
Credits: 4

Credit Equivalent: One credit is equivalent to or is defined as given below:

   i.   10 hours of lectures /organized classroom activity /contact hours;

   ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

   iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Outcomes:

- Enable students to raise researchable issues, form objectives and prepare questionnaire for primary survey.
- Equip students with basic skills of data collection and data analysis.
- Develop the analytical and report writing skills of the students.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
1. Assessment of Student's performance during Data Collection & analysis 25%
2. Mid-Term appraisal of the research work*   25%
3. Evaluation of the Research Report   25%
4. Viva-Voce Examination**   25%

                                                      Total = 100%

* Mid-Term appraisal of the research work shall be done during Mid-Term examinations where students shall be sharing experiences and observations on their field survey.

** Viva-Voce examination shall be taken by an external examiner towards the end of the semester.

The Format of the Final Report

The report shall be written by each student based on data collected from the field through a detailed schedule approved by the course instructors and its analysis as per the objectives of the problem. The following is the proposed format for the field work report.

Chapter-1: Introduction

- Nature & Rationale of the proposed Problem

- Research issues, Hypothesis and Objectives

- Data and Methodology

    I.   Sample Selection

II. Analytical Tools

Chapter-2: Literature Review

- Review of the related studies
- Gaps/Researchable issues

Chapter-3: Results and Discussions

Chapter-4: Conclusion and Recommendation

- Summary of the report
- Policy Implications

Course Articulation Matrix of ECN 446

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	2	4		1	2	3
CO2	2	3	4	2		3	1	2
CO3	1	3	4	3		2	1	1

Course Code: ECN 409
Course Name: Money & Banking
Credits: 4
Credit Equivalent: One credit is equivalent to or is defined as given below:

   i.   10 hours of lectures /organized classroom activity /contact hours;

   ii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

   iii.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Course Outcomes:

CO1: Enable the students to understand different aspects of monetary theory, institutions and policy;
CO2: Familiarize students with basic concepts and functions of commercial banks;
CO3: Understanding the students to understand analytically the debates in monetary policy and banking sector especially in the Indian context.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
i.   Mid Term Examination: 25%
ii.   End Term Examination (External): 50%
iii.   Comprehensive Internal Assessment: 25%

COURSE CONTENTS

Unit I   (8 Hours)

Money and Interest Rates, changes in equilibrium interest rate, risk structure of interest rates, the subprime collapse and the Baa-Treasury Spread, Expectations theory, market segmentation theory, liquidity premium theory, the lemon problem.

Unit II   (12 Hours)

Commercial Banks- theoretical basis, profitability & liquidity management, growth and structure, Assets & liabilities of banks, lending & portfolio choice, risk management in banking. Co-operative Banks- origin & growth, features, problems & policy, Khusro committee recommendation. Small savings, provident funds, and pension funds, current pension schemes.

Unit III   (10
Hours)

Supply of Money-sources of money supply, measures and theory of money supply, monetary expansion & the money multiplier, monetary expansion & currency drain, Reserve Bank of India-Organization and Management, Roles, Monetary policy, recent policy development, liquidity adjustment facility, challenges to monetary policy in India, Securities and Exchange Board of India

Unit IV   (20 Hours)

Call Money Market, Treasury Bills Market, Commercial Bills Market, Market for Commercial Paper & Certificate of Deposits, The Discount Market, Market for Financial Guarantees, Government (Gilt-Edged) Securities Market

Unit V (10 Hours)

Industrial Securities Market, Futures, Options and Other Financial Derivatives, Role and Functions of Insurance Companies, Bancassurance & IRDA, Financial Crisis & its Damage to the Economy.

Prescribed Text Books

1. Bhole, L M (2009): *Financial Institutions & Markets*, Tata McGraw Hill (5th Edition).

2. Mishkin, Frederic S & Eakins, Stanley G. (2012): *The Economics of Money, Banking and Financial Markets*, Prentice Hall (7th Edition).

3. Indian Institute of Banking and Finance (2008): Principles & Practices of Banking, Macmillan.

4. Selected Materials will be provided in the class room for reading and discussion.

Supplementary Readings:

1. Reddy Y V (2000): *A Review of Monetary and Financial Sector Reforms: A Central Bank's Perspective*, Universal Book Stall, New Delhi.

2. Lewis & Muzan (2000): *Monetary Economics*, Oxford University Press.

3. The Economics Times, The Business Line, & Financial Express.

Course Articulation Matrix of ECN 409

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	2	1	2	1		2	1	1
CO2	2	1	3	1		1	1	3
CO3	3	3	2	3		3	2	2

ECN: 416 ENVIRONMENTAL ECONOMICS

Course Code: ECN 416
Course Name: Environmental Economics
Credits: 4 Credits

Credit Equivalent: One credit is equivalent to or is defined as given below:
  i. 10 hours of lectures /organized classroom activity /contact hours;
  ii. 5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;
  iii. 15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Course Outcomes:

CO1: Familiarize students with basic concepts of environment economics.
CO2: Enable students to understand inter-linkages between economics and environment.
CO3: Enable student understand environmental problems and ways to sustainable development.
CO4: Familiarize students with environmental issues in Indian and global context and its implications.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria
i. Mid Term Examination: 25%
ii. End Term Examination (External): 50%
iii. Comprehensive Internal Assessment: 25%

COURSE CONTENTS

UNIT-I (12 hours)

Scope of Environmental Economics:
Economics and Environment: Major Environmental problems, Environmental regulation in USA, UK and Russian Federation, Cost of Environmental Protection; Positive vs. Normative analysis of Environmental problems, Making Societal Choices: Individual preferences regarding Environmental protection, Environment Sustainability, Social Choices and Individual Preferences: Pareto optimality, Voting, Arrow's impossibility theorem.

Unit- II (12 hours)

Environmental Externality:
Welfare and Market, Market failure: Public goods and externalities, Property rights; Benefit-Cost analysis; The Coase Theorem, Economics of Exhaustible resources.

Unit- III (12 hours)

Measuring Value of Environment and Natural Resources

Demand for Environmental Goods, Revealed vs. Stated preferences, Hedonic Price Theory, Contingent Valuation

Unit- IV (12 hours)

Environment Regulation:

Rationale for regulation, Basic regulatory instruments; Pigovian Fees: Single polluters, Multiple pollutes. Regulation with unknown Control Costs; Permits or Fees, Emission Fees or Quality regulation, Risk and Uncertainty in Pollution control.

Unit- V   **(12 hours)**

Current status of pollution in India, Review of environmental legislation in India, Environmental issues in global content, Greenhouse gases ozone depletion, Montreal Protocol, Paris agreement.

Prescribed Text Books

1. Kolstad, Charles D. (2011), *Intermediate Environmental Economics*, Oxford University Press, New Delhi.

2. Nick Hanley, Jason F. Shogren and Ben White (2000), *Environmental Economics in Theory and Practice*, Macmillan

3. Rabindra, N. Bhattacharya (2001), *Environmental Economics: An Indian Perspective*, Oxford University Press, New Delhi.

Supplementary Readings

1. Charles Perrings (2009), *Ecological Economics*, Sage Publications, New Delhi.

2. Johansson Per-Olov (1987), *The Economic Theory and Measurement of Environmental Economics*, Cambridge University Press.

3. Willam Baumal and Wallace E. Oats (1998), *The Theory of Environmental Policy*, 2nd Edition, Cambridge University Press.

4. Daniel W. Bromley (1996) (Eds.), *Handbook of Environmental Economics*, Blackwell Publishers Ltd.

5. Hussen, A.H. (2000), *Principles of Environmental Economics*, Routlege.

6. Fisher, A (1981), *Resource and Environmental Economics*, Cambridge University Press

Course Articulation Matrix of ECN 416

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	3	2	1		1	1	1
CO2	3	1	3	4		2	2	1
CO3	1	4	1	3		3	2	3
CO4	4	1	4	1		3	1	2

ECN 405 MICROECONOMIC THEORY

Course Code: ECN 405
Course Name: Microeconomic Theory
Credit :   4

Course Objectives
- Equip students with comprehensive and rigorous theoretical concepts and methodology;
- Enabling students to analyze the behaviour of individuals, firms and markets using general, static and partial equilibrium approaches.

Credit: 4 (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; semina etc.)

Course Outcome:

CO1: Enabled the students about basic concepts on microeconomics
CO2: Mounting the students about functioning of the micro economy
CO3: Developing critical skills to understand the implications of microeconomic policies

Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
   a. Class Participation: 10%
   b. Assignment: 50%
   c. Quiz: 20 %
   d. Presentation: 20%

Course Content

Unit-I   **(8 hours)**

Market: Constructing a Model; Optimization and Equilibrium; Demand Curve; Supply Curve; Market Equilibrium; Comparative Statics; Pareto Efficiency, Budget Constraint: Budget Constraint; Properties of the Budget Set; Numeraire; Taxes, Subsidies, and Rationing, Preferences: Consumer Preferences; Indifference Curves; Marginal Rate of Substitution, Utility: Cardinal utility; Marginal utility; Utility for commuting

Unit II   **(10 hours)**

Choice: Optimal choice; Consumer demand; Estimating utility functions. Demand: Normal and inferior goods; Income offer curves and Engel curves; Ordinary goods and Giffen Goods; Price offer curve and demand curve; Inverse demand function. Revealed Preference: Idea of revealed reference; Weak axiom of revealed preference; Strong axiom of revealed preference. Slutsky equation.

Unit III   **(14 hours)**

Consumer surplus: Demand for discrete good; Quasilinear utility; Market demand: Inverse demand function; Extensive and intensive margin; Elasticity; Elasticity and revenue; Equilibrium: Market equilibrium.

Unit IV   **(14 hours)**

Profit Maximisation: Profits; Organization of firms; Boundaries of the firms; Short-run and long-run profit maximization; Comparative statics; Cost Minimization: Revealed cost minimization; Returns of scale and cost function; Long-run and short-run costs; Fixed and quasi-fixed costs; sunk costs. Cost curves: average and marginal costs.

Unit V   **(14 hours)**

Firms Supply: Market environments; Pure competition; Supply decision of competitive firms; Inverse supply function; Profits and producer surplus; Industry Supply: Short and long-run Industry supply; Monopoly: Maximising profits; Linear demand curve and monopoly; Deadweight loss and monopoly; Natural monopoly; Monopoly Behaviour: Price discrimination; First, second and third-degree price discrimination. Monopolistic competition. Oligopoly: Price leadership; Cournot model; Collusion; punishing strategies;

Prescribed Text Books:

1. Varian Hal R (1995), Intermediate Micro Economics: A Modern Approach, W.W Norton, New York.
2. Ferguson, C.E. (1968), Microeconomic Theory, Cambridge University Press, London.
3. Koutsoyiannis, A. (1985), Modern Microeconomics, Macmillan, London.

Supplementary Readings:

1. Stigler, G.J.(1996), The Theory of Price (4th Edition), Premier Hall, New Delhi
2. Baumol W. J. (1982), Economic Theory and Operations Analysis, 4th Ed, Prentice Hall of India, New Delhi.
3. Pindyck, Robert S. and Rubinfeld, Daniel L. (2009), Micro Economics (7th Edition), Pearson Education, New Delhi.

Course Articulation Matrix of ECN 405

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	3	1	-		2	3	-
CO2	3	1	1	2		-	1	2
CO3	3	4	1	-		3	1	1

ECN 404 MATHEMATICS FOR ECONOMISTS

Course Code: ECN 404

Course Name: Mathematics for Economists

Credits: 4

Course objectives:

- To make students capable to understand basic mathematics required for understanding economics.
- To familiarize students with the use of mathematics as a tool to analyze economic phenomena.
- To familiarize students with elementary matrix algebra and its application to econometrics and optimization.
- To understand calculus like optimization of functions of several variables, and be able to apply their knowledge to simple economic problems.

Course Outcomes:

CO1: Make students capable to understand basic mathematics required for understanding economics.
CO2: Familiarize students with the use of mathematics as a tool to analyze economic phenomena.
CO3: Familiarize students with elementary matrix algebra and its application to econometrics and optimization.
CO4: Understand calculus like optimization of functions of several variables, and be able to apply their knowledge to simple economic problems.

Credit Equivalent: One credit is equivalent to or is defined as given below:

iv.   10 hours of lectures /organized classroom activity /contact hours;

v.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

vi.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
a. Class Participation: 10%
b. Assignment: 50%
c. Quiz: 20 %
d. Presentation: 20%

Course Content

Unit- I   **(12 hours)**

Significance of Mathematics in Economics; Real numbers; Set theory; Relations and functions; Economic equilibrium analysis.

Unit- II   **(12 hours)**

Linear models and Matrix Algebra: Matrix operations; Commutative, associative, distributive laws, Transposes, Determinants, Nonsingularity, Laplace expansion, Matrix inversion, Cramer's rule; Applications in Economics: Input-output model.

Unit- III   **(12 hours)**

The derivative: Limit; Continuity; differentiability, Rules of differentiation, Partial differentiation, Total differentials, Total derivatives, Implicit functions.

Unit- IV   **(12 hours)**

Optimization: First and second derivative tests; Derivatives of exponential function and logarithmic function: Applications in Economics: Profit Maximization.Functions of two or more variables: Second order partial derivatives and total differentials; Finding maximum/minimum.

Unit- V   **(12 hours)**

Unconstrained optimization, Quadratic forms, Characteristic roots, Concavity and convexity; Applications in Economics. Constrained optimization: Classical Programming, Lagrange multiplier, Second order condition; Applications in Economics: utility maximization and consumer demand, Homogeneous function. Rules of integration; Indefinite integrals; Definite integrals; Improper Integrals

Prescribed Text Books:
3. Chiang, Alpha C. and Kevin Wainwright (2005) Fundamental Methods of Mathematical Economics 4th Edition. New York: McGraw-Hill/Irwin.
4. Sydsaeter, Knut and Peter J. Hammond (1995) Mathematics for Economic Analysis. New Delhi: Pearson Education.

Supplementary Readings:
8. Simon, Carl P. and Lawrence E. Blume (1994). Mathematics for Economists. New York: W. W. Norton & Company.
9. Sundaram, Rangarajan K. (1996). A First Course in Optimization Theory. New York: Cambridge University Press.
10. Sydsaeter, Knut, Peter J. Hammond, AtleSeierstad and Arne Strom (2008) Further Mathematics for Economic Analysis 2nd Edition. Prentice Hall.
11. Vohra, Rakesh V. (2005). Advanced Mathematical Economics. New York: Routledge.

Course Articulation Matrix of ECN 404

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	3	1	4	2		1	-	3
CO2	1	2	4	3		1	1	2
CO3	1	4	1	3		3	1	2
CO4	-	3	2	4		4	2	3

ECN 433 ECONOMICS OF CLIMATE CHANGE

Course Code: ECN 433
Course Name: Economics of Climatic Change
Credits: 2 Credits
Course Outcomes:-
    CO1: Familiarize students with basic concepts of environment economics.
    CO2: Enable students to examine the climate change and understand inter-linkages between economics and environment.
    CO3: Enable student understand environmental problems and ways to sustainable development.
Attendance Requirements:
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.
Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
a. Class Participation: 10%
b. Assignment: 50%
c. Quiz: 20 %
d. Presentation: 20%

COURSE CONTENTS

Unit-1
Economics and Environment: Definition,Origins, Scope, Kuznets curve; Climate change: Meaning, Cause, Impact and ways to reduce the climatic change, Major Climatic Problems. Resources,
Unit-2
Market failure: Public Goods; Externalities, Open source resources
Unit-3
Type of Regulations: prescriptive approach vs. Incentive approach, Coasian solution, Pigovian taxation, Tradable Permits
Unit-4
Current trends in climate change, predictions, Economic impact of climate change
Unit-5
International Agreements on Climatic change: Montreal Protocol, Rio Summit, Paris agreement, Current status of pollution in India: Government policies and regulations
Prescribed Text Books
 4. Kolstad, Charles D. (2011), *Intermediate Environmental Economics*, Oxford University Press, New Delhi.
Supplementary Readings
 7. Charles Perrings (2009), *Ecological Economics*, Sage Publications, New Delhi.
Course Articulation Matrix of ECN 433

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	3	2	1		1	1	1
CO2	3	1	3	4		2	2	1
CO3	1	4	1	3		3	2	3

ECN 403 STATISTICAL METHODS

Course Code: ECN 403
Course Name: Statistical Methods
Credits: 4
Course objectives:
- to familiarize students with statistical methods;
- to enable students to apply statistical methods in data analysis.

Course Outcomes:
CO1: Understand the different statistical methods and theoretical concepts behind the different methods.
CO2: Apply various statistical tools and techniques to analyse data.
CO3: Develop a deep understanding of the statistical inference

Credit Equivalent: One credit is equivalent to or is defined as given below:
  iv. 10 hours of lectures /organized classroom activity /contact hours;
  v. 5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;
  vi. 15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements
Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
a. Class Participation: 10%
b. Assignment: 50%
c. Quiz: 20 %
d. Presentation: 20%

COURSE CONTENTS

Unit- I **(12 hours)**
Introduction of Statistics, Evolution & Scope of Statistics, Frequency distribution, Graphical representation of Frequency Distribution: Histogram, Frequency Polygon; Line graph and Scatter Plot; Measures of Central tendency: Mean, Median, Mode; Measures of Dispersion: Range, Quartile deviations (QD), Mean deviation, standard deviation, Coefficient of variation (CV), Decile, Percentiles; Box Plots.

Unit-II **(12 hours)**
Method of Moments; Measures of Skewness and kurtosis; Correlation: Simple correlation, Partial correlation, Multiple Correlations; Index Numbers: Simple index number, Composite index number, Price Index, Splicing.

Unit- III **(12 hours)**
Random Variable & Expectation, Rules of Expectation; 462
lity: Basic concepts of probability, Tree diagram; Probability Distributions: Probability distribution for discrete and continuous variables, Joint probability distribution;

Unit IV **(12 hours)**
Normal distribution, Binomial distribution, Poisson distribution; Central limit theorem; Inference using normal distribution.

Unit- V **(12 hours)**

Sampling: Sample and population, Random sampling, sampling distribution and standard error; Tests of significance: Hypothesis testing, Z-test, t-test, F-test, Chi square test, Analysis of Variance (ANOVA).Time Series Analysis: Nature of a time Series, Analysis of trends, Moving average.

Prescribed Text Books:

5. Hamilton, Lawrence C. (1990). *Modern Data Analysis: A First Course in Applied Statistics*. Belmont, CA: Brooks/Cole Publication.
6. Nagar, A. L. and R. K. Das. (1976). *Basic Statistics, 2nd edition*. New Delhi: Oxford University Press.
7. Gupta, S.C. and Kapoor, V.K. (2002). *Fundamentals of Mathematical Statistics, 11thEdition.*New Delhi: Sultan Chand & Sons.
8. Koutsoyiannis, A. (1977). *Theory of Econometrics*. New York: Palgrave.

Supplementary Readings:

9. Clark, Megan J. and John A. Randal (2010). *A First Course in Applied Statistics, 2nd edition*. Pearson Education.
10. Dunn, Dana S. (2001). *Statistics and Data Analysis for the Behavioral Sciences.* New York: McGraw-Hill.
11. Hamilton, Lawrence C. (2003). *Statistics with STATA, 8th edition*. Boston: Brooks/Cole, Cengage Learning.
12. Lewis, Margaret (2011) *Applied Statistics for Economists*, Routledge.
13. Marsh, Catherine (2009). *Exploring Data: An Introduction to Data Analysis for Social Scientists. 2nd Edition*. London: Polity Press.
14. Moore, D.S. and McCabe, G.P. (2003). *Introduction to the Practice of Statistics*. New York: W.H. Freeman & Company.
15. Ott, Lyman R and Longnecker, Michael (2008) *An Introduction to Statistical Methods and Data Analysis, 6th Edition*. Belmont, CA: Brooks/Cole Publication.
16. Peck, Roxy, Chris Olsen, Jay L. Devore. (2012). Introduction to Statistics and Data Analysis, 4th edition. Boston: Brooks/Cole, Cengage Learning.
17. Rohwer, Götz (2012) *Models in Statistical Social Research.* Routledge.

Course Articulation Matrix of ECN 403

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	3	2		1	2	1
CO2	1	3	4	2		1	1	3
CO3	1	2	1	3		3	3	2

ECN 401 BASICS OF MICROECONOMICS

Course Code: ECN 401

Course Name: Basics of Microeconomics

Course Credit: 2

Course outcome:

CO1: Enable students to understand basics of microeconomics;

CO2: Enable students analyzing behavior of individuals, firms and markets.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75 per cent attendance is a must failing which a student may not be permitted to appear in examination

Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
a. Class Participation: 10%
b. Assignment: 50%
c. Quiz: 20 %
d. Presentation: 20%

COURSE CONTENT

Unit-I (6 hours)

Definition, Scope and branches of economics, Basic economic problems; Demand, Factors affecting demand; Elasticity of demand; Types of elasticity of demand, price elasticity, income elasticity, substitution and cross elasticity of demand; Supply schedule and supply curve, factors affecting supply, elasticity of supply. Consumer surplus

Unit-II (6 hours)

Utility analysis: Law of diminishing marginal utility and equi-marginal utility; Indifference curve approach; properties of indifference curve, price effect, income effect and substitution effect, derivation of demand curve using indifference curve.

Unit-III (6 Hours)

Cost concepts: Short run cost curves (average fixed cost, average variable cost, average cost and marginal cost). Long run cost concepts: Average and marginal cost, opportunity cost. Revenue curves: total revenue, average revenue and marginal revenue

Unit –IV (6 Hours)

Theory of production: Production decision of a firm, production function, short run and long run, average and marginal products, law of diminishing returns, isoquants, returns to scale, producers' equilibrium.

Unit-V   **(6 Hours)**

Introduction to market structure: Essential features and price and output determination in perfect competition, monopolistic competition, oligopoly and monopoly.

Prescribed Text Books:

1. Paul Samuelson and William D Nordhaus (2010), Economics, McGraw Hil, New Delhi

2. Robert S. Pindyck, Daniel L. Rubinfeld and Prem Lal Mehta (2009), Microeconomics, Pearson, New Delhi

Course Articulation Matrix of ECN 401

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	3	1	-		2	3	-
CO2	3	1	1	2		-	1	2

ECN 406 BASICS OF MACROECONOMICS

Course Code: ECN 406

Course Name: Basics of Macroeconomics

Course Credits: 2

Course outcome:

CO1: Familiarize students with the basic concepts of Macroeconomics

CO2: Enable the students to understand the functioning of the macro economy

CO3: Developing critical skills to understand the implications of macroeconomic policies

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
a. Class Participation: 10%
b. Assignment: 50%
c. Quiz: 20 %
d. Presentation: 20%

COURSE CONTENT

UNIT – I (6 Hours)

Meaning, scope and importance of macro-economics, Schools of thought in macro economics, Concepts of gross domestic product, GNP and national income; Circular flow of income in two, three and four-sector economy; Measurement of national income; India's national income accounts

UNIT – II (6 Hours)

Say's law of markets and the classical theory of employment, Keynes' objection to the classical theory; Keynesian theory of income, output and employment; Aggregate demand and aggregate supply functions; The principle of effective demand; Consumption function — average and marginal propensities to consume, factors influencing consumption spending, Keynes Psychological law of consumption, Post Keynesian theories of consumption: relative and permanent income hypotheses

UNIT – III (6 Hours)

Investment: autonomous and induced investment; Marginal efficiency of capital, Theories of Investment: classical, Keynesian and accelerator theory, Multiplier: investment, budget and tax;IS and LM curves: derivation, shifts and rotations, simultaneous equilibrium in product market and money market.

UNIT – IV (6 Hours)

Money — meaning, functions and classification, Demand for money: quantity theory of money, Fischer equation and Cambridge equation; Keynes' approach: transaction, precautionary and speculative demand for money, Friedman's restatement of quantity theory of money, Money Supply: meaning and measures M1, M2, M3, M4; Credit creation and credit control by banks and Money multiplier.

UNIT –V (6 Hours)

Inflation: meaning, types and effects; Demand pull and cost push theories of inflation; Trade off between inflation and unemployment – Phillips curve, Macroeconomic policies: objectives and Instruments.

Prescribed Text Books:

5. Branson, W.H., Macro-Economic Theory and Policy Third Edition , East West Press , New Delh

6. Shapiro, Edward (2001), Macroeconomic Analysis Fifth Edition, Galgotia Publication, New Delhi.

Supplementary Readings:

1. Patinkin, Don (1965), Money, Interest and Prices, Harper and Row, New York.

Course Articulation Matrix of ECN 406

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	3	2		1	2	1
CO2	1	3	4	2		1	1	3
CO3	1	2	1	3		3	3	2

ECN 402 MACROECONOMIC THEORY

Course Code: ECN 402

Course Name: Macroeconomic Theory

Credits: 4

Course outcome:

CO1: Introduce basic concepts on macroeconomics
CO2: Enable students understanding functioning of the macro economy
CO3: Developing critical skills to understand the implications of macroeconomic policies

Evaluation Criteria:

1.   Mid Term Examination: 20%
2.   End Term Examination: 60%
3.   Continuous Internal Assessment: 20% (Breakup is following)
a.   Class Participation: 10%
b.   Assignment: 50%
c.   Quiz: 20 %
d.   Presentation: 20%

COURSE CONTENTS

Unit – I   **(10 Hours)**

Review of the National income and Product Accounts: Development of macroeconomics, circular flow of product and income, GNP as welfare measure.

Multiplier: tax, consumption and saving functions, balanced budget multiplier, tax rate multiplier.

Unit-II   **(15 Hours)**

Demand side equilibrium:equilibrium income and the interest rate in product market, money market; introduction to monetary and fiscal policy: fiscal policy effects on demand, monetary policy effects on demand, interaction of monetary and fiscal policies.

Demand supply in the labour market: demand for labour, supply of labour, equilibrium in the labour market, equilibrium unemployment.

Supply side equilibrium: expectations and aggregate supply, introduction to the formation of expectation, supply side disturbances.

Unit-III   **(15 Hours)**

Monetary, Fiscal and Income policy: monetary and fiscal policy in the static model, classical case, fiscal and monetary multipliers in the static model, income policy in the static model, income policy and excess demand.

Search, wage rigidity and unemployment: labour market serach and employment, search cost and wage rigidity, wage rigidity in the aggregate labour market, local wage rigidities and aggregate unemployment, price stickiness and the aggregate supply function.

Rational expectation and demand policy: Basic model with exogenous expectations, aggregate demand, basic model with expectations endogenous, rational expectations hypothesis, long term contracts and economic policy.

Unit-IV   **(10 Hours)**

Consumption and consumption expenditure: Cross sections, cycles and trends, basic model of consumer behaviour, three theories of consumption function, two alternatives in consumption theory, choice structure and disequilibrium, wealth effect in static model.

Investment demand; the demand for money: Present value criterion for investment, marginal efficiency of investment, investment demand and output growth, q theory of investment, user cost and liquidity effects, lags in investment demand, investment in the static model.

Demand for money: regressive expectations model, portfolio balance approach, transaction demand for money, money as a consumer and producer good; Supply of money: instruments of monetary policy, mechanism of monetary expansion, determinants of money supply, money supply in static model.

Unit-V **(10 Hours)**

Foreign sector and Balance of payments: current account and product market equilibrium, capital account and balance of payments equilibrium, balance payments and LM curve, Balance of payments adjustment policy with fixed rates and flexible rates.

Inflation, productivity and income distribution: inflation in static model, wages, prices and productivity, Inflation and unemployment: Philips's curve.

Prescribed Text Books:

5. Branson, W.H., (2005), *Macro-Economic Theory and Policy*, East-West Press Private Limited, New Delhi.
6. Blanchard, Oliver (2007), *Macroeconomics*, Pearson Education, New Delhi.

Supplementary Readings:

5. Dornbusch, R. and S. Fischer (2005) *Macroeconomics*, 4th Edition, McGraw-Hill Education Private limited, New Delhi.
6. Richard T. Froyen (2012), *Macroeconomics: Theories and Policies*, Pearson

Course Articulation Matrix of ECN 402

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	2	1	4	2		1	-	3
CO2	1	2	3	3		1	1	1
CO3	3	4	1	3		3	1	2

ECN 453 DEVELOPMENT ECONOMICS

Course Code: ECN 453
Course Name: Development Economics
Credits: 4

Course Outcomes:

    CO1: Familiarize students with basic concepts of growth and development.
    CO2: Understand different strategies and models of economic growth & development.
    CO3: Enabling the various issues related to development.

Evaluation Criteria:

1. Mid Term Examination: 20%

2. End Term Examination: 60%

3. Continuous Internal Assessment: 20% (Breakup is following)

a. Class Participation: 10%
b. Assignment: 50%
c. Quiz: 20 %
d. Presentation: 20%

COURSE CONTENTS

UNIT I   **(10 Hours)**

The Concept Economic Development: Income and growth, Concept of human development, Structural features.

UNIT II   **(15 Hours)**

History, Expectations and Development: Complementarities, Increasing returns, competition, multiplicity and International Trade; Theories of Economic growth: Classical growth theory, Harrod - Domar model and neoclassical model of Solow and Swan

UNIT III   **(12 Hours)**

Endogenous Growth Theories and New Strategies for Development, Theory of Big-Push, Balanced and Unbalanced Growth, Growth with unlimited labor supplies, Stages of Growth Theory.

UNIT IV   **(13 Hours)**

Economic inequality: measuring economic inequality, Inequality and development; Poverty and under nutrition: first principles and functional impact of poverty; Population growth and development; Rural-Urban interaction and migration

UNIT V   **(10 Hours)**

Capital and technical progress; Dualism, centre-periphery models and process of cumulative causation; Population and development; Financing economic development: financing development from domestic resources; Foreign assistance, debt and development.

Prescribed Text Books

8. Ray, D. (1998). *Development Economics*, Princeton University Press.

9. Thirwall, A. P. (2006). *Growth and Development with Special Reference to Developing Economies*, 8th Edition, Palgrave Macmillan, New York.

Supplementary Reading:

1. Todaro, M. P. and Smith, S. C. (2003). *Economic Development*, Pearson Education Limited, New Delhi.

2. Basu, Kausik (1998), *Analytical Development Economics*, Oxford India Paperbacks, New Delhi.

3. Ghatak, Subrata (2003). *Introduction to Development Economics*, 4th Edition, Routledge Taylor & Francis Group.

4. Sen, Amartya (1999), *Development vs. Freedom*, Oxford University Press, London.

Course Articulation Matrix of ECN 453

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	2	2	1	3		2	3	-
CO2	1	2	4	2		-	1	2
CO3	3	4	1	-		3	1	1

ECN 423 INTERNATIONAL ECONOMICS

Course Code: ECN 423

Course Name: International Economics

Course Credit: 4

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

- Familiarize students with basic concepts of international economics
- Enable students understand different principles and theories of international trade
- Enable students understand the impact of different trade policies and their implications towards economic growth
- Enable students analyse issues related to Indian trade both in goods and services

Course Outcomes:

CO1: Familiarize students with basic concepts of international economics
CO2: Enable students understand different principles and theories of international trade
CO3: Enable students understand the impact of different trade policies and their implications towards economic growth
CO4: Facilitate students analyse issues related to Indian trade both in goods and services

Credit Equivalent: One credit is equivalent to or is defined as given below:

iv.   10 hours of lectures /organized classroom activity /contact hours;

v.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

vi.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
a. Class Participation: 10%
b. Assignment: 50%
c. Quiz: 20 %
d. Presentation: 20%

COURSE CONTENT

Unit-I: Introduction and Theories of International Trade   (12 hours)

Introduction to International Economics; Trade : Inter– regional and International ; Gains from Trade; The Pure Theory of International Trade: Theories of absolute advantage, Comparative advantage and opportunity costs; Heckscher -Ohlin theory of trade and Leontief paradox; Factor price equalization theorem and Stopler-Samuelson Theorem; The Rybczynski Theorem and Immiserising growth

Unit-II New Approaches to International Trade   (12 hours)

News approaches to trade theory the Product cycle and economies of scale theory; Causes of emergence and measurement of intra-industry trade; Economies of scale; imperfect competition and international trade

Unit-III Tariffs, Economic Integration and Custom Union   (12 hours)

Theory of Tariffs: Effects of tariffs on balance of payments, terms of trade, national income, consumption, output and income distribution; Emergence of and the political economy of Non-tariff barriers; Optimum and effective rate of tariffs; Forms of economic integration: The Theory of customs union;

Unit-IV Balance of Payment and Exchange Rate   (12 hours)

Concepts and components of balance of payments, dis-equilibrium in the balance of payments; The process of adjustment in the Balance of Payments under Gold Standard, fixed exchange rate and flexible exchange rate systems; Elasticity and absorption approaches to balance of payments; Monetary and fiscal measures for adjustment in balance of payments dis-equilibrium ; Monetary approaches to the balance of payments; Foreign trade multiplier with and without foreign repercussions.

Unit-V International Economic Institutions   (12 hours)

International Monetary system; Role of Multinational corporations in developing countries with special reference to India ; International economic institutions; Functions and achievements WTO , IMF ,ADB and SAARC; Globalization and Anti-Globalization

Text Books

4. Paul, R. Krugman& Maurice Obstfeld (2000), International Economics: Theory and Policy (5th ed.), Addison-Wesley, Longman, Pearson Education.
5. Sodersten, B.O. and Geoffrey Reed (3rd ed.) (1999), International Economics, The Macmillan Press Ltd. London.
6. Salvatore, D. (1996), International Economics, Prentice Hall, New York

Course Articulation Matrix of ECN 423

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	2	2	1	3		2	3	-
CO2	1	2	4	2		-	1	2
CO3	3	4	1	-		3	1	1
CO4	4	1	2	2		2	3	2

ECN 456 BASIC STATISTICAL AND ECONOMETRIC TECHNIQUES

Course Code: ECN 456

Course Name: Basic Statistical and Econometric Techniques

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course outcomes:

CO1: Familiarize students with basic statistical and econometric methods;
CO2: Enable students to apply statistical and econometric methods in data analysis.

Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in the examination.

Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
a. Class Participation: 10%
b. Assignment: 50%
c. Quiz: 20 %
d. Presentation: 20%

Course Content

Unit- I   **(06 hours)**

Random variables and Sampling Theory: discrete Random variables, expected values of discrete Random variables, Expected values of Functions of Discrete random variables, Expected Values rules, independence of random variables.

Unit-II   **(06 hours)**

Probability density, fixed and Random Components of a Random variable, Estimators, Efficiency, Consistency.

Unit- III   **(06 hours)**

Covariance: Sample covariance, Basic Covariance Rules, Proof of Covariance rules, Population Covariance; Variance: Variance Rules, Proof of variance rules, Population variance of the sample mean;

Unit IV   **(06 hours)**

Correlation: Meaning, Types of correlation. Methods of studying correlation, Karl Pearson coefficient of correlation, spearman's rank correlation.

Unit- V   **(06hours)**

Simple regression analysis: The Simple Linear Model, Least Squares Regression, Examples of Least Squares Regression, Goodness of Fit.

Prescribed Text Books:

1. Dougherty, C. (2011). Introduction to Econometrics, 4th edition. *Oxford University Press, New Delhi*.

Course Articulation Matrix of ECN 456

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	2	1	3		2	3	1
CO2	1	2	4	2		-	1	2

ECN 459 INDIAN ECONOMIC THOUGHT

Course Code: ECN 459
Course Name: Indian Economic Thought
Credits: 2
Course outcomes:
CO1: To expose students to Indian Economic thoughts.
CO2: Students shall enrich their understanding of the contemporary economic policies and practices better by familiarizing themselves with Works and economic ideas of these great thinkers from India

Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
a. Class Participation: 10%
b. Assignment: 50%
c. Quiz: 20 %
d. Presentation: 20%

COURSE CONTENTS

Unit – I (6 Hours)
Introduction: Uses of history, criteria for selection
Buddhism and economics: economic enterprise, prices and taxation, altruism and economics
Unit-II (6 Hours)
KautilyaArthasastra: economic function of the state, taxation and pricing policy, land system
Economic thought in the Muslim period: Islamic canons and fiscal policy, monetary policy and price control
Unit-III (6 Hours)
Famines and famine policy: meaning of famine, famine policy
DadabhaiNaoroji and drain theory: meaning of drain, long run relevance
Unit-IV (6 Hours)
Ranade and economic of development: poverty and industrialization, agrarian policy, railway investment and methodology of economics
Gokhale and economics of education, rupee ratio and national income measurement
Unit-V (6 Hours)
Gandhian economics: methodological issues, consumption behaviors, technology, industrialization and scale of protection, trusteeship and industrial relation, charity, leisure and sanctity of work
Mahalanobis model, industry and trade, saving behavior, industrial deceleration, measurement of poverty, agriculture
Prescribed Text Books:
1) Dasgupta, A.K. (1993), A History of Indian Economic Thought, Routledge
2) Ratan Lal Basu and Raj Kumar Sen (2008) Ancient Indian Economic Thought Relevance for Today, Rawat publications

Course Articulation Matrix of ECN 459

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	3	1	-		2	3	-
CO2	3	1	1	2		-	1	2

ECN 407 INDIAN ECONOMIC ENVIRONMENT

Course Code: ECN 407
Course Name: Indian Economic Environment
Credits: 2

Course Outcomes:

CO1: Enable the students will acquaint with knowledge of Indian Economic Environment.

CO2: Understand the various issues pertaining to Indian economy and its economic environment.

CO3: Identify social, political and economic factors in the Indian Economy with reference to the global economy.

Evaluation Criteria:

1. Mid Term Examination: 20%
2. End Term Examination: 60%
3. Continuous Internal Assessment: 20% (Breakup is following)
   a. Class Participation: 10%
   b. Assignment: 50%
   c. Quiz: 20 %
   d. Presentation: 20%

COURSE CONTENTS

UNIT I   (4 hours)

Colonialism and underdevelopment of Indian Economy: Condition of Indian Economy pre British and during British rule; nature of Indian Economy; structure of Indian economy; Natural resources; Land, water, forest and mineral resources.

UNIT II   (4hours)

Indian Agriculture: Role, nature and cropping pattern; Issues in Indian agricultural policy and rural development: agricultural production and productivity trends; Agricultural inputs and green revolution; Impact of green revolution.

UNIT III   (5 hours)

Agricultural Finance and Marketing: Regional Rural Banks, NABARD, agricultural marketing in India: Agricultural Prices and Price Policy: Food security and food management; MSP and food grains procurement, public distribution system, food subsidy and buffer stock.

UNIT IV   (3 hours)

Indian Tax structure; Indian Fiscal policy: objectives and Fiscal federalism; GST and its impact on Indian economy; Demonetization: causes and its impact.

UNIT V   (4 hours)

Indian Foreign Trade: value; composition and direction; India's foreign exchange rate policy and concept of convertibility of Indian rupee; Globalisation: Concept and meaning; effects and critical appraisal of Globalisation; Economic institutions – International Monetary Fund (IMF) and World Trade Organisation.

Prescribed Text Books:

1) Dhingra, I. C. (2001), *The Indian Economy: Environment and Policy*, Sultan Chand & Sons, New Delhi.
2) Kaushik Basu (ed.) (2004), *India's Emerging Economy: Performance and Prospects in the 1990s and Beyond*, Oxford University Press, New Delhi
3) Misra S.K. & Puri V.K. *Indian Economy*, Himalaya Publishing House, Mumbai
4) Sundharam K.P.M. and DattRuddar (2001) *Indian Economy*, S. Chand & Sons, New Delhi

Course Articulation Matrix of ECN 407

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	3	1	2	4		1	3	2
CO2	1	2	3	-		1	1	2
CO3	1	4	1	3		3	2	1

ECN 535 AGRO-BASED INDUSTRY

Course Code: ECN 535

Course Name: Agro Based Industry

Course Credit: 2

Course outcome:

1) Familiarize the students with the process of marketing in context of agriculture in India

2) Understand the various marketing functions

3) Understand the role of cooperatives in agriculture

Evaluation Criteria:

       1. Mid Term Examination: 20%
       2. End Term Examination: 60%
       3. Continuous Internal Assessment: 20% (Breakup is following)
       a. Class Participation: 10%
       b. Assignment: 50%
       c. Quiz: 20 %
       d. Presentation: 20%

 (Unit -I)

Agricultural Marketing: Concepts and Definition, Need and Scope of agricultural Marketing, Role of Agricultural Marketing, Markets and Market Structure: Meaning, components and classification of markets, Market forces: Demand and Supply

(Unit-II)

Agricultural Marketing and Development: Importance, History and Growth of Agricultural Marketing, Producer's Surplus and marketable surplus: meaning types and their inter-relation, factors affecting marketable surplus, Characteristic of a good marketing system.

(Unit-III)

Marketing functions Packaging and Transportation: meaning and classification of marketing functions, Packaging: meaning, types and advantages, Transportation: means of transportation, Advantages of transportation functions and factors affecting cost of transportation, Storage and Warehousing: meaning, types and functions, Cold chain system of marketing: its necessity, problems and Government schemes for investment in cold chain.

(Unit-IV)

Marketing Agencies, Institutions and Channels, Government intervention and role in agricultural Marketing, Characteristics of traditional Agricultural Marketing system, E-commerce and E-business: Benefits and Challenges

(Unit-V)

Cooperation and Cooperative in Agricultural Marketing: meaning and functions, Principles and advantages, National level cooperative federations: National Cooperative union of India (NCUI), National Agricultural Cooperative Marketing federation of India (NAFED).

Suggested Readings

- Acharya SS & Agarwal NL. 2004. Agricultural Marketing in India. 4th Ed. Oxford & IBH.
- Kohls RL &Uhj JN. 2005. Marketing of Agricultural Products. 9th Ed. Prentice Hall.
- Kotler P. 2002. Marketing Management-Analysis, Planning. Implementation and Control. Pearson Edu.
- Krishnamacharyulu C &Ramakrishan L. 2002. Rural Marketing. Pearson .Edu.
- Ramaswamy VS & Nanakumari S. 2002. Marketing Management. 2nd Ed. Mac Millan India

Course Articulation Matrix of ECN 535

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	3	4		1	1	3
CO2	1	2	3	1		1	1	-
CO3	2	1	3	4		1	3	1

ECN 521 MACROECONOMICS II

Course Code: ECN 521

Course Name: Macroeconomics II

Course Credit: 4

Course Objectives:

- To teach students various theories of macroeconomics.
- To enable students to better understand various macroeconomic economic problems.

Course Outcomes:

CO1: Edify the students various theories of macroeconomics.
CO2: Develop the students to better understand various macroeconomic economic problems.
CO3: Sound understanding of theories of growth, inflation, saving, investment, and unemployment will help students to critically analyse related government policies.

Credit Equivalent: One credit is equivalent to or is defined as given below:

iv.   10 hours of lectures /organized classroom activity /contact hours;

v.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

vi.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent

2. End Term Examination (External): 50 percent

3. Comprehensive Internal Assessment: 25 percent

Course Content

Unit – I   **(10 Hours)**

Business Cycles I:- Samuelson's Model, Hicks and Goodwin's Model, Austrian Business Cycle Theory.

Unit-II   **(10 Hours)**

Business Cycles II:- Monetarists Interpretation of Business Cycles; Real Business Cycle Theory: A Baseline Real Business Cycle Model, Household Behavior, A Special Case of the Model, Solving the Model in the General Case, Empirical Applications of Real Business Cycle Model

Unit-III (12 Hours)

Nominal Rigidity:- Exogenous Nominal Rigidity: A Baseline Case: Fixed Prices; Price and Wage Rigidity; Departures from Perfect Competition in the Goods and Labour Markets; Usable Model with Exogenous Nominal Rigidity

Unit-IV (15 Hours)

Microeconomic Foundations of Incomplete Nominal Adjustment: Model of Imperfect Competition and Price Setting; Real Rigidity; Coordination Failure Models and Real Non-Walrasian Theories; Taylor model; Lucas Imperfect Information Model, policy ineffective theorem.

Unit-V (12 Hours)

Dynamic Stochastic General-Equilibrium Models of Fluctuations:- Dynamic New Keynesian Models; Predetermined Prices: The Fischer Model; Fixed Prices: The Taylor Model; The Calvo Model and the New Keynesian Phillips Curve; State-Dependent Pricing: Caplin-Spulber Model; Models of Staggered Price Adjustment with Inflation Inertia.

Prescribed Text Books:

7. Romer, David. 2011. *Advanced Macroeconomics, 4th edition*, McGraw-Hill Higher Education.

8. Blanchard, Olivier Jean, Fischer Stanley. 1989. *Lectures on Macroeconomics*, MIT Press, London

9. Knoop, Todd A. 2010. R*ecessions and Depressions: Understanding Business Cycles, 2nd edition*, Praeger, Westport, CT

10. Hayek, F. A. 1933. Monetary Theory and the Trade Cycle. Sentry Press, New York. [URL: https://mises.org/library/monetary-theory-and-trade-cycle-0]

Supplementary Readings

21. Alvarez, F., and R. Shimer. 2011. "Search and Rest Unemployment." Econometrica, 79(1) p. 75–122.

22. Bernanke, B., and M. Gertler, 1989, "Agency costs, net worth, and business fluctuations." American Economic Review, 79, p. 14-31.

23. Burnside, C., Eichenbaum, M., and S. Rebelo, 1993. "Labor Hoarding and the Business Cycle." Journal of Political Economy, 101, p. 245-273.

24. Faig, M., and Z. Li, 2009. "The Welfare Costs of Expected and Unexpected Inflation." Journal of Monetary Economics, 56(7), p. 1004-1013.

25. Greenwald, B. and J. Stiglitz, 1993. "Financial market imperfections and business cycles." Quarterly Journal of Economics, 108, p. 77-114.

26. Greenwood, J., Hercowitz, Z. and G. W. Huffman, 1988. "Investment, Capacity Utilization, and the Real Business Cycle." American Economic Review, 78: 402-417.

27. Hall, R. 2005. "Employment Fluctuations with Equilibrium Wage Stickiness." American Economic Review, 95(1) p. 50–65.

28. Hansen, G. D., 1985. "Indivisible Labor and the Business Cycle." Journal of Monetary Economics, 16, p. 309-327.

29. Kiyotaki, Nobuhiro. and John H. Moore, 1997. "Credit cycles." Journal of Political Economy, 105, p. 211-248.

30. Kydland, F. E. and E. C. Prescott, 1982. "Time to Build and Aggregate Fluctuations." Econometrica, 50, p. 1345-1370.

31. Lagos Ricardo, and Randall Wright, 2005. "A Unified Framework for Monetary Theory and Policy Analysis," Journal of Political Economy, 113(3): 463-484.

32. Ljungvist, Lars and Thomas J. Sargent, 2004. Recursive Macroeconomic Theory, MIT

33. Long, J. B. and C. I. Plosser, 1983. "Real Business Cycles." Journal of Political Economy, 91, p. 39-69.

34. Lucas, R. E. Jr., 1972. "Expectations and the Neutrality of Money." Journal of Economic Theory, 4, p. 103-124.

35. Lucas, R. E. Jr., 1973. "Some International Evidence on Output-Inflation Tradeoffs." American Economic Review, 63, p. 326-334.

36. Lucas, R.E., 1978. "Asset prices in an exchange economy." Econometrica, 46, p. 1429-1445.

37. Mehra, R. and E.C. Prescott, 1985. "The equity premium: a puzzle," Journal of Monetary Economics, 15, p. 145-161

38. Shimer, R. 2012. "Reassessing the Ins and Outs of Unemployment." Review of Economic Dynamics 15(2) p. 127–48.

39. Stockey, Nancy und Lucas, Robert E., with E. Prescott, 1989. Recursive Methods in in Economic Dynamics, Harvard University Press, Cambridge MA, London

40. Thomas F. Cooley (ed.), 1997. *Frontiers of Business Cycle Research*, Princeton University Press

Course Articulation Matrix of ECN 521

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	3	4		1	1	3
CO2	1	2	3	1		1	1	-
CO3	2	1	3	4		1	3	1

ECN 522 ECONOMETRICS II

Course Code: ECN 522

Course Name: Econometrics II

Course Credit: 4

Credit Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course objectives:

- to familiarize students with the econometrics theory;
- to enable students to understand applications of econometric methods.

Course outcomes:

CO1: Familiarize the students with the econometrics theory;
CO2: Develop the students to understand applications of econometric methods.
CO3: Estimate advanced econometric models for the purpose of testing theories and/or forecasting.

Credit Equivalent: One credit is equivalent to or is defined as given below:

iv.   10 hours of lectures /organized classroom activity /contact hours;

v.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

vi.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent

2. End Term Examination (External): 50 percent

3. Comprehensive Internal Assessment: 25 percent

Course Content

UNIT-I (10 Hours)

Qualitative Response Regression Models: Nature of Qualitative Response Regression Models. Description and Estimation of Linear Probability, Logit, Probit.

UNIT-II (15 Hours)

Simultaneous Equations Models (SEM): Nature of SEM's Simultaneous Equation Bias, Identifications Problem. Rank and Order Conditions. Testing Identification of Economic Models. Estimation of SEM'S : Instrumental Variable (IV) Method, ILS, 2SLS Methods.

UNIT-III (15 Hours)

Time Series Analysis: Testing Casuality in Economics: Granger Causality

Test. Stationary, Test of Stationary, Spurious Regression, Unit Roots, Dickey-Fuller Test, Cointegration, Engle Granger Test.

Forecasting: AR, MA and ARIMA processes, Box Jenking Methodology.

Vector Auto Regression (VAR) Model, Introduction, Formulation and Estimation. Impulse Response function, Variance Decomposition.

UNIT-IV (10 Hours)

Panel Data Models: Introduction: Advantages and Issues Involved in Utilizing Panel Data.

Simple Panel Data Models: Fixed Effects Models, Random Effects Models. Hausman Test. Dynamic Panel Model: Random, Coefficient Model.

UNIT-V **[For assignment only]** (10 Hours)

Estimation and Interpretation of Qualitative response, Simultaneous equation models, Time Series and Panel data models using Standard Statistical/Econometric Packages [SPSS/E-Views/STATA/Gretl].

Prescribed Text Books:

6. Bhaumik, Sankar Kumar (2015) Principles of Econometrics: A Modern Approach Using E-Views, Oxford University Press, New Delhi.
7. Dougherty, Christopher (2011) Introduction to Econometrics 4th Edition. New York: Oxford University Press.
8. Enders, W. (2013), Applied Econometric Time Series, 3rd edition, John Wiley and Sons, New Delhi.
9. Wooldridge, Jeffrey M. (2010) Econometric Analysis of Cross Section and Panel Data 2nd Edition. MIT Press.
10. Greene, W.H. (2003), Econometric Analysis, fifth edition, Pearson Education Inc.

Supplementary Readings:

4. Hamilton, J. D. (1994), Time Series Analysis, Princeton University Press,
5. Goldberger, A. S. (1998). Introductory Econometrics. Cambridge: Harvard University Press.
6. Hsiao, Cheng (2002). Analysis of Panel Data. Cambridge University Press.

Course Articulation Matrix of ECN 522

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	1	1	3	4		1	1	3
CO2	1	2	3	1		1	1	-
CO3	2	1	3	4		1	3	1

ECN 455 RESEARCH METHODOLOGY FOR SOCIAL SCIENCES

Course Code: ECN 455

Course Name: Research Methodology for Social Sciences

Course Credit: 4

Course Objectives:

- To enable students to understand theories and all the steps of social science research.
- To provide students will all the skills so that they can undertake a primary survey based research in the next semester.

Course Outcomes:

CO1: Enable the students to understand theories and all the steps of social science research.
CO2: Provide the students will all the skills so that they can undertake a primary survey based research in the next semester.
CO3: Develop the students to undertake research related to economics by collecting primary data, analysing the data, and interpreting and drawing conclusions from the analysis

Credit Equivalent: One credit is equivalent to or is defined as given below:

iv.   10 hours of lectures /organized classroom activity /contact hours;

v.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

vi.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent

2. End Term Examination (External): 50 percent

3. Comprehensive Internal Assessment: 25 percent

COURSE CONTENT

Unit-I   **(10 Hours)**

Science and Social Research (Introduction, Foundations of Social Science, Some Dialectics of Social Research; Scientific Research (Characteristics, Types, and Methods); Concepts, Constructs, Variables, and Types of Measurement Scale

Unit-II   **(15 Hours)**

Formulation of Research Problem (Reviewing Literature, Identification of Research Gap, Research Problem); Hypothesis (Types, Characteristics, Sources, Functions, Testing, and Criticisms); Logic of Inquiry

Unit-III **(15 Hours)**

Selection of Research Topic (Sources, Focus, Operationalizing Concepts, and Formulating Research Questions); Research Design (Meaning, Goals, Phases, and Types); Research Proposal; Sampling (Meaning, Purpose, and Types)

Unit-IV **(10 Hours)**

Techniques of Data Collection (Questionnaire, Interview Schedule, Interview, Observation, Case Study, Content Analysis, and Projective Techniques)

Unit-V **(10 Hours)**

Data Processing; Tabulation; Diagrammatic Representation and Analysis; Measurement and Scaling Techniques; Theory Building (Models, Paradigms and Theories); Statistical Techniques.

Prescribed Text Books:

4. Babbie, Earl (2014). The Practice of Social Research, 13th Edition.Rawat Publications, Jaipur.
5. Ahuja, Ram (2001). Research Methods, Rawat Publications, Jaipur.
6. Kumar, Ranjit (2014). Research Methodology: Step-by-Step Guide for Beginners. Sage Publication India Pvt Ltd.

Supplementary Readings:

3. Neuman, Lawrence W. (2006) Social Research Methods: Quantitative and Qualitative Approaches, Sixth edition. New Delhi: Pearson Education.
4. Field, Andy (2014). Discovering Statistics Using IBM SPSS Statistics, 4th Editions. Sage Publications India Pvt Ltd, New Delhi.

Course Articulation Matrix of ECN 455

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	3	1	2	4		1	3	2
CO2	1	2	3	-		1	1	2
CO3	1	4	1	3		3	2	1

ECN 423 INTERNATIONAL ECONOMICS

Course Code: ECN 423
Course Name: International Economics
Course Credit: 4

Credits Equivalent: 4 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

Course Objectives:

- Familiarize students with basic concepts of international economics
- Enable students understand different principles and theories of international trade
- Enable students understand the impact of different trade policies and their implications towards economic growth
- Enable students analyse issues related to Indian trade both in goods and services

Course Outcomes:

CO1: Familiarize students with basic concepts of international economics

CO2: Enable students understand different principles and theories of international trade

CO3: Enable students understand the impact of different trade policies and their implications towards economic growth

CO4: Facilitate students analyse issues related to Indian trade both in goods and services

Credit Equivalent: One credit is equivalent to or is defined as given below:

vii.   10 hours of lectures /organized classroom activity /contact hours;

viii.   5 hours of laboratory work / practical / field work /Tutorial /teacher-led activity;

ix.   15 hours of other workload such as independent individual/group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.

Attendance Requirements

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria

1. Mid Term Examination: 25 per cent

2. End Term Examination (External): 50 percent

3. Comprehensive Internal Assessment: 25 percent

COURSE CONTENT

Unit-I: Introduction and Theories of International Trade   (12 hours)

Introduction to International Economics; Trade : Inter– regional and International ; Gains from Trade; The Pure Theory of International Trade: Theories of absolute advantage, Comparative advantage and opportunity costs; Heckscher -Ohlin theory of trade and Leontief paradox; Factor price equalization theorem and Stopler-Samuelson Theorem; The Rybczynski Theorem and Immiserising growth

Unit-II New Approaches to International Trade   (12 hours)

News approaches to trade theory the Product cycle and economies of scale theory; Causes of emergence and measurement of intra-industry trade; Economies of scale; imperfect competition and international trade

Unit-III Tariffs, Economic Integration and Custom Union   (12 hours)

Theory of Tariffs: Effects of tariffs on balance of payments, terms of trade, national income, consumption, output and income distribution; Emergence of and the political economy of Non-tariff barriers; Optimum and effective rate of tariffs; Forms of economic integration: The Theory of customs union;

Unit-IV Balance of Payment and Exchange Rate   (12 hours)

Concepts and components of balance of payments, dis-equilibrium in the balance of payments; The process of adjustment in the Balance of Payments under Gold Standard, fixed exchange rate and flexible exchange rate systems; Elasticity and absorption approaches to balance of payments; Monetary and fiscal measures for adjustment in balance of payments dis-equilibrium ; Monetary approaches to the balance of payments; Foreign trade multiplier with and without foreign repercussions.

Unit-V International Economic Institutions   (12 hours)

International Monetary system; Role of Multinational corporations in developing countries with special reference to India ; International economic institutions; Functions and achievements WTO , IMF ,ADB and SAARC; Globalization and Anti-Globalization

Text Books

7. Paul, R. Krugman& Maurice Obstfeld (2000), International Economics: Theory and Policy (5th ed.), Addison-Wesley, Longman, Pearson Education.
8. Sodersten, B.O. and Geoffrey Reed (3rded.) (1999), International Economics, The Macmillan Press Ltd. London.
9. Salvatore, D. (1996), International Economics, Prentice Hall, New York

Course Articulation Matrix of ECN 423

Course Outcomes	Programme Outcomes 1	Programme Outcomes 2	Programme Outcomes 3	Programme Outcomes 4	All	Programme Specific Outcomes 1	Programme Specific Outcomes 2	Programme Specific Outcomes 3
CO1	2	2	1	3		2	3	-
CO2	1	2	4	2		-	1	2
CO3	3	4	1	-		3	1	1
CO4	4	1	2	2		2	3	2

AMENDED COURSE STRUCTURE OF Ph. D in ECONOMICS PROGRAMME

ECN 601	Research Methods in Quantitative Techniques	4	6
ECN602	Recent Developments In Indian and Global Economy	4	6
ECN 603	ECN 603 Advanced Economic Theory	4	6
ECN 604	ECN 604 Advanced Econometric Techniques and Their Applications	4	6
ECN 605	ECN 605 Econometrics Methods	4	6
ECN 606	ECN 606 Recent Developments in International Trade	4	6
ECN 607	ECN 607 Recent Development in Agricultural Economics	4	6
ECN 608	ECN 608 Recent development in Social Sector	4	6
ECN 609	ECN 609 Recent Developments in Labour Economics & Industrial Relations	4	6
ECN 610	ECN 610 Recent Developments in Environmental Economics	4	6
ECN 611	ECN 611 Recent Developments in Money, Banking & Financial Institutions	4	6
ECN 612	ECN 612 Recent Developments in Urban Economics	4	6

CENTRAL UNIVERSTIY OF HIMACHAL PRADESH
Department of Economics
Programme of the study: Ph.D. in economics
Course title: *RESEARCH METHODS IN QUANTITATIVE TECHNIQUES*

COURSE CODE: ECN 601   **CREDITS: 4**

Attendance Requirements: Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25 per cent

2. End Term Examination: 50 per cent

3. Counselling, Activities and Tutorials (CAT): 25 per cent

i. Class Participation: 5 per cent

ii. Assigned Literature Review: 5 per cent

iii. Assigned Proposal Preparation: 5 per cent

iv. Presentation & Defence of Proposal: 10 Per cent

Preamble: The course is designed to create academic researchers as well as professionals who are capable of conducting policy analysis, relating to national and global economic and development issues from quantitative and inter-disciplinary perspectives. While an interdisciplinary approach is encouraged, the programme lays somewhat larger emphasis on economics to provide an integrated framework within which various development issues can be addressed.

Objectives:

1. To train the research scholars to use the techniques of statistical analysis, which are commonly applied to understand and analyse economic problems.

2. To learn robust statistical and econometrics tools and techniques for research analysis.

Unit I: Research Methods (12 L)

Meaning of Research Methodology, Research Design, Components of a Research Design, Characteristics of a Good Research Design, Potential Problems in Research Design, Types of Research Design, Functions of a Research Design, Operationalization Research, Variables Types of Research, Variables Independent Variable Dependent Variable, Formulation of a Research problem – Hypothesis: Types, Sources and Characteristics of a good hypothesis.

Unit II: Sampling Design & Data collection (12 L)

Sampling Design: Probability Sampling, Simple Random, Systematic, Stratified and Multistage or Cluster Sampling, Non Probability Sampling – Purposive, Judgment, Quota and convenience sampling – Data Collection: Primary and Secondary methods – Observation, Document, Case Study and Survey – Schedule and Questionnaire – Construction and Requisites of a Good Questionnaire.

Unit III: Descriptive Statistics (12 L)

Presentation of data – Editing, coding and tabulating data – Diagrammatic and Graphic representation of data – Processing data – Averages: Mean, Median, Mode and Weighted average – Merits and Demerits – Dispersion: Range, Standard deviation, Co-efficient of variation.

Unit IV: Statistical Methods (12 L)

Correlation: Simple, Partial and Multiple correlation, Pearson's coefficient of correlation and Rank correlation; Probability Distribution, Importance of Probability Distribution in Statistics, Conditions of Probability Distribution, Probability Distribution of Random Variables, Types of Probability Distribution; Normal or Cumulative Probability Distribution, Binomial or Discrete Probability Distribution

Unit V: Statistical Inference (12 L)

Steps in testing of hypothesis – Large sample Z test: uses and simple problems; t test: Assumptions, Properties and Applications and Simple problems; F test: Assumptions, Properties and Applications and Simple problems, Chi-square [χ^2] test: Assumptions, Properties and applications and non-parametric tests.

Basic Readings

1. Abdurrahaman Md.S. (2017) Introduction to Research Methodology & Statistics: A Guide for Students and Supervisors Ahmadu Bello University Press
2. Elhance, D.N.(2000), Fundamentals of Statistics, Allahabad; Kitab Mahal.
3. S.P. Gupta (2001), Statistical Methods, S. Chand and Co., New Delhi.
4. Kothari, C.R (1998), Research Methodology, Wiley Eastern Ltd., New Delhi.
5. Wilkision and Bhandarkar (1991), Methodology and techniques of social Research, Himalaya Publishing House, Bombay.

Additional Readings

1. Eari Babbie (1975), Practice of Social Research, Wadsworth Publishers, New York.
2. Ferber and Verdoon (1962), Research Methods in Economics and Business, Macmillan, New York.
3. Goode and Halt (1987), Methods in Social Research, MoCraw Hill, London.
4. Kurein, C.T. (1973), Research Methods in Economics, Madras Sangam Publisher.
5. Moser, C.A. and Kolton, C (1980) Survey Educational Methods in Social investigation, investigation, Heinemann Educational Books, London.
6. Sonachalam, K.S. (1978), Research methodology in Social Science, Kadayam, Tamilnadu.
7. Shanmugasundaram, V. (1974), Papers on the Methodology of Research in Social Sciences, University of Madras, Chennai.
8. Sitaram Pillai (1989), Basic Statistic, Progressive Publishers, Chennai.

ECN 603: ADVANCED ECONOMIC THEORY

Course Code: ECN 603

Course Name: Advanced Economic Theory

Teacher:

Credit: 4

Course objectives:

- to familiarize the students with advancements in economic theory.

Attendance Requirements: Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25 per cent

2. End Term Examination: 50 per cent

3. Counselling, Activities and Tutorials (CAT): 25 per cent

v. Class Participation: 5 per cent

vi. Assignment: 10 per cent

vii. Quiz/Class Test: 10 per cent

COURSE CONTENTS

Unit- I. The Solow Growth Model (10 hours)

Unit- II Infinite-Horizon and Overlapping-Generations Models: The Ramsey-Cass-Koopmans Model, The Diamond Model (12 hours)

Unit- III Endogenous Growth; Cross Country Income Differences (10 hours)

Unit- IV Exogenous Nominal Rigidity: Exogenous Nominal Rigidity: A Baseline Case: Fixed Prices; Price and Wage Rigidity; Departures from Perfect Competition in the Goods and Labour Markets (14 hours)

Unit- V Microeconomic Foundations of Incomplete Nominal Adjustment: Model of Imperfect Competition and Price Setting; Real Rigidity; Coordination Failure Models and Real Non Walrasian Theories; Taylor model; Lucas Imperfect Information Model, Policy ineffective theorem. Prescribed (14 hours)

Text Books:

1. Romer, David. 2011. Advanced Macroeconomics, 4th edition, McGraw-Hill Higher Education.

2. Blanchard, Olivier Jean, Fischer Stanley. 1989. Lectures on Macroeconomics, MIT Press, London

Supplementary Readings

1. Alvarez, F., and R. Shimer. 2011. "Search and Rest Unemployment." Econometric, 79(1) p. 75–122.

2. Bernanke, B., and M. Gertler, 1989, "Agency costs, net worth, and business fluctuations." American Economic Review, 79, p. 14-31.

4. Burnside, C., Eichenbaum, M., and S. Rebelo, 1993. "Labor Hoarding and the Business Cycle." Journal of Political Economy, 101, p. 245-273.

5. Faig, M., and Z. Li, 2009. "The Welfare Costs of Expected and Unexpected Inflation." Journal of Monetary Economics, 56(7), p. 1004-1013.

6. Greenwald, B. and J. Stiglitz, 1993. "Financial market imperfections and business cycles." Quarterly Journal of Economics, 108, p. 77-114.

7. Greenwood, J., Hercowitz, Z. and G. W. Huffman, 1988. "Investment, Capacity Utilization, and the Real Business Cycle." American Economic Review, 78: 402-417.

8. Hall, R. 2005. "Employment Fluctuations with Equilibrium Wage Stickiness." American Economic Review, 95(1) p. 50–65.

9. Hansen, G. D., 1985. "Indivisible Labor and the Business Cycle." Journal of Monetary Economics, 16, p. 309-327.

10. Kiyotaki, Nobuhiro. and John H. Moore, 1997. "Credit cycles." Journal of Political Economy, 105, p. 211-248.

11. Kydland, F. E. and E. C. Prescott, 1982. "Time to Build and Aggregate Fluctuations." Econometrica, 50, p. 1345-1370.

12. Lagos Ricardo, and Randall Wright, 2005. "A Unified Framework for Monetary Theory and Policy Analysis," Journal of Political Economy, 113(3): 463-484.

13. Ljungvist, Lars and Thomas J. Sargent, 2004. Recursive Macroeconomic Theory, MIT

14. Long, J. B. and C. I. Plosser, 1983. "Real Business Cycles." Journal of Political Economy, 91, p. 39-69.

15. Lucas, R. E. Jr., 1972. "Expectations and the Neutrality of Money." Journal of Economic Theory, 4, p. 103-124.

16. Lucas, R. E. Jr., 1973. "Some International Evidence on Output-Inflation Tradeoffs." American Economic Review, 63, p. 326-334.

17. Lucas, R.E., 1978. "Asset prices in an exchange economy." Econometrica, 46, p. 1429-1445.

18. Mehra, R. and E.C. Prescott, 1985. "The equity premium: a puzzle," Journal of Monetary Economics, 15, p. 145-161

19. Shimer, R. 2012. "Reassessing the Ins and Outs of Unemployment." Review of Economic Dynamics 15(2) p. 127–48.

20. Stockey, Nancy und Lucas, Robert E., with E. Prescott, 1989. Recursive Methods in Economic Dynamics, Harvard University Press, Cambridge MA, London

21. Thomas F. Cooley (ed.), 1997. Frontiers of Business Cycle Research, Princeton University Press

22. Knoop, Todd A. 2010. Recessions and Depressions: Understanding Business Cycles, 2nd edition, Praeger, Westport, CT

23. Hayek, F. A. 1933. Monetary Theory and the Trade Cycle. Sentry Press, New York. [URL: https://mises.org/library/monetary-theory-and-trade-cycle-0]

ECN 605 ADVANCE ECONOMETRICS METHODS

Course Code ECN 605
Course Name Advance Econometrics Methods
Course Instructor Dr. Archi Bhatia
Credit 4

Course objectives

- To equip the students with advance tools of time series and teach them the skills required to complete a research project.
- To train the students to use various quantitative techniques required in Economic research.

Attendance Requirements: Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

Evaluation Criteria:

1. Mid Term Examination: 25 per cent
2. End Term Examination: 50 per cent
3. Counselling, Activities and Tutorials (CAT): 25 per cent
1. Class Participation: 5 per cent
2. Assignment: 10 per cent
3. Quiz/Class Test: 10 per cent

COURSE CONTENTS

Unit 1- Single Equation regression Models: Basic Revision Multiple Linear Regression Model, Dummy Variable, use of t and F-test, tests involving, Dummy variables(5 Hours)
Reference: Pindyck and Rubinfeld, Ch 5

Unit 2- Univariate Time series Modelling and Forecasting: Characteristics of stochastic processes, Moving Average processes, Autoregressive processes, Partial Autocorrelation function, Invariability condition, ARMA process, Box Jenkins Approach, ARMA models in E-views
Reference: Properties of Stationary processes, characteristics-Gujarati, Ch 21Time series, the ACF-Pindyck and Rubinfeld, Ch 16 MA, AR, ARMA- Pindyck and Rubinfeld, Ch 17 Box Jenkins, ARMA in E-views- Brooks Ch 5, Gujarati Ch 22

Unit 3- Estimating and Forecasting with Time Series Models Forecasting AR process, forecasting MA process, Accuracy of forecast, Forecasting using ARMA models in E-views(5 Hours)
Reference: Brooks- Ch 5

Unit 4- Multivariate Models Vector Auto regression Models, Choosing VAR lag length, block significance and Granger causality, impulse response, variance decomposition, VAR estimation in E-vies (10 Hours)
Ref: Brooks- Ch 6, Enders Ch5

Unit 5- Unit root, testing for Unit roots, Error Correction models, Co-integration, EngleGranger Methodology (10 Hours)
Reference: Brooks- Ch 7, Enders Ch 6, Gujarati Ch 21

Books

1) Damodar, N. Gujarati – Basic Econometrics, 4th edition
2) Chris Brooks- Introductory Econometrics for Finance (2008) Cambridge University Press
3) Walter Enders- Applied Econometric Time Series, Wiley 2nd edition
4) Robert S. Pindyck and Daniel L. Rubinfeld- Econometric Models and Economic Forecasts, McGraw Hill, 4th edition