MA ECONOMICS
COURSE STRUCTURE & SYLLABUS
ACADEMIC SESSION 2025-26

DEPARTMENT OF ECONOMICS

Central University Of Himachal Pradesh
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SEMESTER-WISE COURSES OFFERED

Course Code	Course Name	Credits	Teacher
Disciplinary: Major Courses			
ECN 405	Microeconomic Theory	4	KS
ECN 404	Mathematics for Economists	4	KhS
ECN 464	Contemporary Issues in Indian Economy-I	2	VN & KhS
Vocational/Skill			
ECN 403	Statistical Methods	4	AKB
Indian Knowledge System			
IKS	Indian Knowledge System	2	SS & KhS
Interdisciplinary Courses			
ECN 407	Indian Economic Environment	2	KhS & VK
ECN 406	Basics of Macroeconomics	2	VK

Course Details: Semester III

Course Code	Course Name	Credits	Teacher
Disciplinary: Elective			
ECN 416	Environmental Economics	4	VK
Disciplinary: Minor Course			
ECN 455	Research Methodology for Social Sciences	4	VN & VK
Vocational/Skill			
ECN 466	Econometrics with Statistical Software - I	4	NND & VK
Review of Literature & Research Proposal			
ECN 468	Review of Literature & Research Proposal Writing (Theory)	~~4~~	KhS & VK
ECN 469	Review of Literature & Research Proposal Writing (Practical)	~~4~~	SS, AKB, KS & VN#
Value Added Courses (Zero Credit)			
ECN 474C	Experiential Learning through Training & Internship	2	SS, AKB, KS & VN
Professional Development			
ECN 448	Professional Development Activities in Economics	4	SS, AKB, KS & VN

***Note: SS**-Prof. Sanjeet Singh, **AKB**- Dr. Amit Kumar Basantaray, **KS**- Dr. Kamal Singh, **VN**- Dr. Vinod Naik, KhS- **Khemraj Sharma**, VK- **Vipin Kumar** #Students shall be allotted randomly among all faculty members;*

ECN 405: MICROECONOMIC THEORY

Course Name:	Microeconomic Theory
Course Code:	ECN 405
Credit:	4
Course Coordinator:	Dr Kamal Singh
Credit Equivalent	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 workloads such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/fieldwork; writing of papers/ projects/dissertation/thesis; seminar etc.)
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.
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
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 **(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.

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 goods; 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; Organisation of firms; Boundaries of the firms; Short-run and long-run profit maximisation; Comparative statics; Cost Minimisation: Revealed cost minimisation; 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. Pindyck, Robert S. and Rubinfeld, Daniel L. (2009), Micro Economics (7th Edition), Pearson Education, New Delhi.

Supplementary Readings:

1. Koutsoyiannis, A. (1985), Modern Microeconomics, Macmillan, London.

ECN 406: BASICS OF MACROECNOMICS

Course Name	Basics of Macroeconomics
Course Code	ECN 406
Credit	2
Course Coordinator	Mr. Vipin Kumar
Credits Equivalent	2 Credits: (One credit is equivalent to 10 hours of lectures / organized classroom activity/contact hours; 5 hours of fieldwork / Tutorial / teacher-led activity and 15 hours of other workloads such as independent individual/ group assignments, presentations, panel discussion, quizzes, local survey, etc.)
Course Objectives	• To familiarize students with the basic concepts of Macroeconomics • To enable the students to understand the functioning of the macro economy • To developing critical skills to understand the implications of macroeconomic policies
Course Outcomes	• Helps the students to understand the functioning of the macro economy • Developing critical skills to understand the implications of macroeconomic policies
Attendance	75%
Evaluation Criteria	Midterm examination: 20% End term Examination: 60% Internal assessment: 20%

UNIT – I **(6 Hours)**

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

UNIT – II **(6 Hours)**

Say's law of markets and the classical theory of employment; 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.

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: 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, and M4;

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:

1. Dwivedi, D. N. Macroeconomics Theory and Policy, Second Edition, McGraw-Hill
2. Mankiw Gregory, N. Principles of Macroeconomics, Seventh Edition, Cengage
3. Blanchard, Oliver (2007), Macroeconomics, Pearson Education, New Delhi
4. Dornbusch, R. and S. Fischer (2005), Macroeconomics, 4e, McGraw-Hill Kogakusha Tokyo.

ECN 464: CONTEMPORARY ISSUES IN INDIAN ECONOMY-1

Course Name	Contemporary issues in Indian economy-I
Course Code	ECN 464
Credit	2
Course Coordinator	Dr. Vinod Naik & Mr Khemraj Sharma
Credits Equivalent	2 Credits: (One credit is equivalent to 10 hours of lectures / organized classroom activity/contact hours; 5 hours of fieldwork / Tutorial / teacher-led activity and 15 hours of other workloads such as independent individual/ group assignments, presentations, panel discussion, quizzes, local survey, etc.)
Course Objectives	• To understand the Indian Economic Environment. • To understand the various issues pertaining to Indian economy.
Course Outcomes	• Identify social, political and economic factors in the Indian Economy with reference to the global economy • Developing critical skills to understand the implications of macroeconomic policies
Attendance	75%
Evaluation Criteria	Midterm examination: 20% End term Examination: 60% Internal assessment: 20%

COURSE CONTENTS

UNIT I **(6 hours)**

Basic concepts and nature; Capitalism, Socialism, Mixed economies, inputs and outputs, growth and development; Nature of Indian; structure of Indian economy; Natural resources; Land, water, forest and mineral resources, SDG's, sustainable development in India and impact of climate change on Indian economy.

UNIT II **(7 hours)**

Indian Agriculture: Role, nature and importance, production and productivity trends during pre and post reform periods, Indian agriculture and international comparison, causes of low productivity and measures to improve the productivity: cropping pattern; Issues in Indian agricultural policy and rural development: Agricultural inputs and green revolution; Impact of green revolution.

UNIT III **(5 hours)**

Indian Monetary System: Banking; Evolution of Indian Banking, structure, NPA, Banking sector reforms: RBI; Functions, Monetary policy, Money market, NBFIs and Financial inclusion.

UNIT IV **(5 hours)**

Economic Planning: Evolution; Early experience with five year plans, changing perceptions; Role of planning in market economy, relevance of planning commission; NITI Aayog: Role and functions: COVID-19 and Indian Economy.

UNIT V **(7 hours)**

Foreign Trade Policy: value; composition and direction; SEZs in India, balance of payment, foreign exchange and investment; Foreign direct investment: WTO, IMF, World Bank Group and Regional Trade Blocks: Globalization; Concept and meaning; effects and critical appraisal of Globalization.

Prescribed Text Books:

Madhur Mahajan (2020), *Indian Economy*, Pearson Publications.

Dhingra, I. C. (2001), *The Indian Economy: Environment and Policy*, Sultan Chand & Sons, New Delhi.

Kaushik Basu (ed.) (2004), *India's Emerging Economy: Performance and Prospects in the 1990s and Beyond*, Oxford University Press, New Delhi

Misra S.K. & Puri V.K. *Indian Economy*, Himalaya Publishing House, Mumbai

ECN 404: MATHEMATICS FOR ECONOMISTS

Course Name	Mathematics for Economists
Course Code	ECN 404
Credit	4
Course Coordinator	Mr Khemraj Sharma
Credits Equivalent	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	• to make students capable of understanding 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	After the course, the student shall be able to understand economic ideas expressed in mathematics and use mathematics to build economic models.
Attendance	75%
Evaluation Criteria	Midterm examination: 20% End term Examination: 60% Internal assessment: 20%

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.

ECN 403 Statistical Methods

Course Name	Statistical Methods
Course Code	ECN 403
Credit	04
Course Coordinator	Dr. Amit Kumar Basantaray
Credits Equivalent	4 Credits: (One credit is equivalent to 10 hours of lectures / organized classroom activity/contact hours; 5 hours of fieldwork / Tutorial / teacher-led activity and 15 hours of other workloads such as independent individual/ group assignments, presentations, panel discussion, quizzes, local survey, etc.)
Course Objectives	• to familiarize students with statistical methods; • to enable students to apply statistical methods in data analysis
Course Outcome (Cos)	• Students will be equipped with various statistical methods for data analysis • Students will be able to perform data analysis on their own as per the need/objectives
Attendance	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% a. Class participation = 5% (Note: Below 75%=0, 75-80%=1, Above 80- 85%=2, Above 85-90%=3, Above 90-95%=4, Above 95%=5) b. Assignments/Presentation = 5% c. Case analysis/ Practical = 10%

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),

Unit-II (12 hours)

Decile, Percentiles; Method of Moments; Measures of Skewness and kurtosis; Index Numbers: Simple index number, Composite index number, Price Index, Splicing.

Unit- III (12 hours)

Probability: Basic terminology of probability, Tree diagram; Probability Rules; Probabilities under statistical independence; Probabilities under statistical dependence; Bayes' Theorem; Probability Distribution.

Unit IV (12 hours)

Random variables; expected value; Binomial distribution; Poisson distribution; Normal distribution.

Unit- V (12 hours)

Sampling & Sampling Distribution; Estimation; Hypothesis testing- One sample tests, Two sample tests, Chi square and Analysis of Variance; Correlation Analysis

SUGGESTED BOOKS

Prescribed Text Books

1. Levin, Richard I., Rubin, David S., Siddiqui, Masood H., and Rastogi, Sanjay (2017). *Statistics for Management, 8th Edition,* Noida: Pearson India Education Pvt. Ltd.
2. Gupta, S.C. and Kapoor, V.K. (2002). *Fundamentals of Mathematical Statistics, 11th Edition.* New Delhi: Sultan Chand & Sons.

Supplementary Readings

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. Hamilton, Lawrence C. (2003). *Statistics with STATA, 8th edition*. Boston: Brooks/Cole, Cengage Learning.
4. Lewis, Margaret (2011) *Applied Statistics for Economists*, Routledge.

IKS: INDIAN KNOWLEDGE SYSTEM

Course Name	Indian Knowledge System
Course Code	IKS
Credit	2
Course Coordinator	Prof Sanjeet Singh & Mr Khemraj Sharma
Credits Equivalent	2 Credits: (One credit is equivalent to 10 hours of lectures / organized classroom activity/contact hours; 5 hours of fieldwork / Tutorial / teacher-led activity and 15 hours of other workloads such as independent individual/ group assignments, presentations, panel discussion, quizzes, local survey, etc.)
Course Objectives	• To understand about Ancient Indian wisdom • To understand about Indian, culture and other related aspects
Course Outcomes	• Development of holistic approach about traditional Indian culture, ethics and ethos
Attendance	75%
Evaluation Criteria	Midterm examination: 20% End term Examination: 60% Internal assessment: 20%

UNIT I: Bharatiya Civilization and Development of Knowledge System (4 Hours)

Antiquity of civilization, Discovery of the Saraswati River, the Saraswati-Sindhu Civilization, Traditional Knowledge System, The Vedas, School of Philosophy (6+3), Ancient Education System, Taxila and Nalanda University.

UNIT II: Arts, Literature and Scholars in Ancient Bharat (4 Hours)

Art, Music and Dance, Nataraja- A Masterpiece of Bharatiya Art, Literature, Life and works of Agastya, Lopamudra, Ghosa, Valmiki, Patanjali, Vedavyasa, Yajnavalkya, Gargi, Caraka, Susruta, Kanada, Kautilya, Panini, Thiruvalluvar, Aryabhata, Bhaskaracarya, Madhavacarya.

UNIT III: Ancient Bhartiya Contribution towards Science & Mathematics (4 Hours)

Sage Agastya's Model of Battery, Vedic Cosmology and Modern Concepts, Concept of Zero and Pi, Number system, Pythagoras Theorem and Vedic Mathematics, Kerela School for Mathematics and History of Culture of Astronomy, Astronomical calculation of day, year and yuga.

UNIT IV: Ancient Bhartiya Engineering, Technology & Architecture (4 Hours)

Pre-Harappan and Sindhu Valley Civilization, Juices, Dyes, Paints and Cements, Glass and Pottery, Metallurgy, Iron Pillar of Delhi, Rakhigarhi, Mehrgarh, Sindhu Valley Civilization, Marine Technology and Bet-Dwarka.

UNIT V: Ancient Bhartiya Contribution in Environment & Health (4 Hours)

Ethnic Studies, Life Science in Plants, Agriculture, Ecology and Environment, Ayurveda, Integrated Approach to Healthcare Surgery and Yoga, etc.

ECN 407: INDIAN ECONOMIC ENVIRONMENT

Course Name	Indian Economic Environment
Course Code	ECN 407(IDC)
Credit	2
Course Coordinator	Mr Khemraj Sharma & Mr Vipin Kumar
Credits Equivalent	2 Credits: (One credit is equivalent to 10 hours of lectures / organized classroom activity/contact hours; 5 hours of fieldwork / Tutorial / teacher-led activity and 15 hours of other workloads such as independent individual/ group assignments, presentations, panel discussion, quizzes, local survey, etc.)
Course Objectives	• Acquaint with knowledge of Indian Economic Environment. • Understand the various issues pertaining to Indian economy and its economic environment. • Identify social, political and economic factors in the Indian Economy with reference to the global economy
Course Outcomes	• Enable the students will acquaint with knowledge of Indian Economic Environment. • Understand the various issues pertaining to Indian economy and its economic environment. • Identify social, political and economic factors in the Indian Economy with reference to the global economy
Attendance	75%
Evaluation Criteria	Midterm examination: 20% End term Examination: 60% Internal assessment: 20% a. Class participation = 5% (Note: Below 75%=0, 75-80%=1, Above 80-85%=2, Above 85-90%=3, Above 90-95%=4, Above 95%=5) b. Assignments/Presentation = 5% Case analysis/ Practical = 10%

Course Content

UNIT I **(6 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 **(6 hours)**

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 **(6 hours)**

Industry Sector: role and importance, Industrial policy of 1948, 1956, 1977 and 1991; and Micro, Small, and Medium Enterprises (MSMEs) in India

UNIT IV **(6 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 **(6 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.

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
5. Article shared by: Natasha Kwat: Indian Economy during the Pre-British Period

SEMESTER III

ECN: 416 ENVIRONMENTAL ECONOMICS

Course Code: ECN 416

Course Name: Environmental Economics

Credits: 4

Course Teacher: Mr Vipin Kumar

Course Objectives:

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

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, Hybrid price or quantity regulations; Risk, Uncertainty and 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.

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

ECN 455: RESEARCH METHODOLOGY FOR SOCIAL SCIENCES

Course Name	Research Methodology for Social Sciences
Course Code	ECN 455
Credit	4
Course Coordinator	Dr Vinod Naik
Credits Equivalent	4 Credits: (One credit is equivalent to 10 hours of lectures / organized classroom activity/contact hours; 5 hours of fieldwork / Tutorial / teacher-led activity and 15 hours of other workloads such as independent individual/ group assignments, presentations, panel discussion, quizzes, local survey, etc.)
Course Objectives	• The course shall help the students to: • develop a theoretical understanding of research methodology • acquire the skills for social science research • acquire the skills for data analysis and research writing
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
Attendance	75%
Evaluation Criteria	Midterm examination: 40% End term Examination: 60% Internal assessment: 40% a. Class participation = 5% (Note: Below 75%=0, 75-80%=1, Above 80- 85%=2, Above 85-90%=3, Above 90-95%=4, Above 95%=5) b. Assignments/Presentation = 5% Case analysis/ Practical = 10%

Course Content

Unit-I **(10 Hours)**

Research (Introduction, Meaning, Objectives, types, approaches): Research Methods versus Methodology, Research and Scientific Method, Scientific Research (Characteristics, Types, and Methods); Criteria of Good Research, Problems Encountered by Researchers in India.

Unit-II **(15 Hours)**

Formulation of Research Problem (Reviewing Literature, Identification of Research Gap, Research Problem); Identifying the variables (Types of variable, Measurement of scale, Hypothesis (Types, Characteristics, Sources, Functions, Testing, and Criticisms).

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. Ahuja, Ram (2001). Research Methods, Rawat Publications, Jaipur.
2. Babbie, Earl (2014). The Practice of Social Research, 13th Edition.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.

ECN 466: ECONOMETRICS WITH STATISTICAL SOFTWARE-1

Course Name	Econometrics with Statistical Software - I
Course Code	ECN 466
Credit	4
Course Coordinator	Mr Vipin Kumar
Credits Equivalent	One credit is equivalent to 10 hours of lectures / organized classroom activity / contact hours; 5 hours of laboratory work / practical using statistical software/ 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	• Helps the students to understand the basics of the econometrics theory • Enable the students to use statistical software for estimation of econometric models.
Attendance	75%
Evaluation Criteria	• Midterm examination: 25% • End term Examination: 50% • Internal assessment: 25%

Course Content

UNIT I (12 Hours)

Introduction: Meaning and rationale of Econometric as a separate discipline, Methodology, Types of Econometrics, Nature and Sources of Data used in Econometric Analysis. Estimation of the Two Variable and Multiple Regression Models with the Method of Ordinary Least Squares (OLS); BLUE Properties. Practical use of statistical software.

UNIT II (12 Hours)

Interval Estimation and Hypothesis testing for simple and multiple regression coefficients: theory and software application. Practical use of statistical software.

UNIT III (12 Hours)

Nature, Consequences, Detection & Remedial Measures for the problems of: Multicollinearity, Heteroscedasticity and Autocorrelation. Practical use of statistical software.

UNIT IV (12 Hours)

Dummy Variables: Introduction and Uses [as independent variables]. Practical use of statistical software.

UNIT V (12 Hours)

Practical use of statistical software and term paper presentation. Estimation and Interpretation of models using Standard Statistical/Econometric Packages [E- Views/STATA/Gretl/ R-Studio].
* Note: Choice of the software shall be based on availability.

Prescribed Text Books:

- Gujarati, DN; Porter, DC; and Gunasekar, Sangeetha (2012). Basic Econometrics.

5 th Edition. Mc Graw Hill.

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

ECN 468: REVIEW OF LITERATURE & RESEARCH PROPOSAL WRITING (THEORY)

Course Name	Review of Literature & Research Proposal Writing (Theory)
Course Code	ECN 468
Credit	04
Course Coordinator	Mr Khem Raj Sharma & Mr Vipin Kumar
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	• To enable students to find out researchable issues, write review of literature & develop researchable objectives
Course Outcome (Cos)	• On completion of the course, the students will be able to independently write review of literature and prepare research proposal.
Attendance	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% c. Class participation = 5% (Note: Below 75%=0, 75-80%=1, Above 80- 85%=2, Above 85-90%=3, Above 90-95%=4, Above 95%=5) d. Assignments/Presentation = 5% e. Case analysis/ Practical = 10%

Course contents

Unit – I

Meaning of research, need for the research proposal, Structure of a research proposal, Selection to research topic, Meaning of research background, Research aim and objectives, Research methodology. (Reading: Abdulai & Owusu-Ansah, 2014)

Unit – II

Writing Reviews of Academic Literature: An Overview (Reading: Galvan & Galvan, 2017: Chapter 1, page 3-13)

Selecting a Topic for Review (Reading: Galvan & Galvan, 2017: Chapter 3)

Unit – III

Conduct a deep analysis of the articles (Reading: Galvan & Galvan, 2017: Chapter 5)

Analysing Research Literature: Quantitative (Reading: Galvan & Galvan, 2017: Chapter 6) and Qualitative (Reading: Galvan & Galvan, 2017: Chapter 7)

Unit – IV

Guidelines for Writing the First Draft of Literature Review (Reading: Galvan & Galvan, 2017: Chapter 10)

Guidelines for Developing a Coherent Essay (Reading: Galvan & Galvan, 2017: Chapter 11)

Unit – V

Preparing a Reference List (Reading: Galvan & Galvan, 2017: Chapter 13)

SUGGESTED BOOKS

1. Galvan, J. L., & Galvan, M. C. (2017). Writing Literature Reviews: A Guide for Students of the Social and Behavioral Sciences. In Writing Literature Reviews (7th ed.). Routledge.

2. Abdulai, R. T., & Owusu-Ansah, A. (2014). Essential ingredients of a good research proposal for undergraduate and postgraduate students in the social sciences

ECN 469: REVIEW OF LITERATURE & RESEARCH PROPOSAL WRITING (PRACTICAL)

Course Code: ECN 469
Course Name: Review of Literature & Research Proposal Writing (Practical)
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: The course is designed:

- To enable students to find out researchable issues, write review of literature & develop researchable objectives.

Course Outcomes:

On completion of the course, the students will be able to write review of literature and prepare research proposal independently.

Attendance Requirement:

The course is divided into three parts: (1) reviewing the relevant literature, (2) preparing research proposal, and (3) Submission & final evaluation of the proposal. At each step, the students will be assigned the work load to be completed in the specified time period. Since each step is required to be completed to reach the next stage, each student is required to participate in all the activities and finish the assigned work within the stipulated time.

Evaluation Criteria:

- **Mid-term Evaluation:**

1. Presentation of Review of Literature: 20%

- **End-term Evaluation**

1. Presentation of Research Proposal: 20%
2. Submission & Evaluation of Research Proposal: 60%

GUIDELINES FOR THE COURSE "REVIEW OF LITERATURE & RESEARCH PROPOSAL WRITING (PRACTICAL)"

- Allotment of guides to the students:

A guide/supervisor will be allotted to each student under whose guidance the students will prepare and submit the research proposal.

- The students will be allotted randomly and equally to all the faculty members.
- In case, the students cannot be divided equally, the faculty members, on rotation basis, shall be given an additional student. The basis of rotation shall be decided by the department Head in consultation with all the eligible supervisors.
- No change of guide shall be allowed once the guide/supervisor is allotted to the students except for exigencies.
- Evaluation:

1. The students have to present their research work in an open seminar in the Department in the presence of all faculty members and students.
2. The allotted guide/supervisor shall be responsible for evaluating the student's presentations and final proposal.

- It is a mandatory to submit the proposal with **Similarity Report of Plagiarism Detection Software** generated using a reliable software approved by the University. Keeping in view the interest of the students and the learning stage, total similarity in proposal (excluding title page, declaration, certificate, content list, references and survey schedule) at the time of submission must not exceed 15 percent.

ECN 474C EXPERIENTIAL LEARNING THROUGH TRAINING & INTERNSHIP

Course Code	**ECN 474C**
Course Name	Experiential Learning through Training & Internship
Credits	2 Credits
Credits Equivalent	(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	The course is designed to make students- • Learn under the guidance of mentors from academic/corporates/research organizations/any other relevant field of practice. • experience the workplace peculiarities and functioning. • Develop orientation for managerial decision-making and orientation to take decisions under different situations of uncertainty and risk. • Complete the assignments/objectives in a timebound manner under a team work environment. • To be a part of professional networks which will strengthen their overall social and professional network. • Eligible for campus placements as completing an internship during their MA programme shall add weightage to their curriculum-vittae.
Course Outcome (Cos)	CO1. Equip the students with the practical aspects of data analysis, review of literature, implementation of project proposal, and report writing. CO2. Learn the key skills such as communication, interpersonal relations, working in a team, production of output in a time bound manner, and decision making during the period of internship. CO3. Provides a different way through which students can improve their confidence and personality.
Duration	The duration of Experiential Learning and Practical Training would be 4-6 weeks or as the case may be (only after the approval of the HOD).

Experiential Learning through Training & Internship							
Program Outcomes					Program Specific Outcomes		
CO	**PO[1]**	**PO[2]**	**PO[3]**	**PO[4]**	**PSO[1]**	**PSO[2]**	**PSO[3]**
CO1	3	3	2	3	3	2	2
CO2	3	3	3	2	3	3	2
CO3	3	2	2	2	2	3	2

Evaluation Criteria	**Evaluation of the comprises of the following two components:** 1. **Continuous Internal Assessment: 40% (40 Marks)** A: Faculty /Industry Mentor's Feedback-20% (20 Marks) B: Attendance during training & internship-20% (20 Marks) 2. **Submission and Presentation of Training & Internship Report: 60% (60 Marks)** **This comprises of the following two components:** Part A: Evaluation of the Report- 30% (30 Marks) Part B: Evaluation of the Report Presentation- 30% (30 Marks) The evaluation (both Part A and Part B) will be done by an internal committee consisting of a faculty of the department to be notified by the HoD

Guidelines for the Students:

- Student(s) will complete at least 4 weeks of training under the constant supervision and guidance of Industry Supervisor as well as Faculty Mentor.
- In case a student fails to successfully complete training, he/she would be required to repeat the training in the next Summer Internship time.
- The training report will be assessed in view of the tasks accomplished as assigned to the student and the comments of Industry Supervisor(s) on his/her conduct and performance.
- Minimum pass marks will be as per the rules of the Central University of Himachal Pradesh.
- The student would submit a certification from the Industry Supervisor on the letter head of the organization.
- Submission of Daily Log and Fortnightly Report to the Faculty Mentors (Formats are given in the Internship Manual)
- Proper completion of Forms given in various Annexures to be filled and submitted to faculty mentors and shall be part of the Internship Report.
- The format for the report shall include
    - Font Style-Times New Roman
    - FontSize-12 with1.5 spacing only.
- Annexures attached shall be part of the Report.

Annexure-I

STUDENT RECORD BOOK

Name:…….

Roll No. ……..

Department (undertaking internship): ……

Please list down the activities undertaken by you in the table.

Provide details or any specific experiences, either good or bad.

Week	Tasks Undertaken	Learning Outcome
1		
2		
3		
4		
5		
6		

Signature of the Student:_____

Signature of the Mentor:_____

Note: Students are required to submit the original hardcopy of this record book at the end of the internship or when they report back in the department.

Annexure-II

Industry Mentor's Feedback Report

(Industry Mentor is requested to give his/her assessment about the work and conduct of the student at the end of Hands-on training)

Name of the student:

Department of Internship Training:

Kindly give your feedback on the scale of 1 to 5 where 1-Improvement Essential; 2- Improvement Desirable; 3- Acceptable; 4- Good; 5- Excellent

S. No.	Criteria	1	2	3	4	5
1	Punctual and regular for internship training					
2	Completes work accurately and thoroughly					
3	Understands assignments, follows instructions and takes initiative					
4	Works independently					
5	Accepts responsibility					
6	Cooperative in working relationships					
7	Quality of Work					
8	Interpersonal Skills					
9	Creates a positive impression					
10	Professionalism in behaviour					

Signature

Full Name and Designation of the Mentor

Name and Address of the Organisation

Note: Use the space below (and/or attach separate sheet to elaborate on any aspect of the above). Also comment on any additional areas of strength or concern.

Annexure-III

Faculty Mentor's Feedback Report

(Faculty Mentor is requested to give his/her assessment about the work and conduct of the student while preparing the Report)

Name of the student:

Internship Training:

Kindly give your feedback on the scale of 1 to 5 where 1-Improvement Essential; 2- Improvement Desirable; 3- Acceptable; 4- Good; 5- Excellent

S. No.	Criteria	1	2	3	4	5
1	Punctuality					
2	Knowledge about the Company					
3	Understanding of the SWOT/PEST/ETOP Analysis					
4	Learnings during the Internship period					
5	Sincerity in making of Internship report					
6	Understanding about the corporate work culture					
7	Reporting during the Internship period					
8	Efforts in the preparation of the Internship report					
9	Positive towards accepting criticism					
10	Overall impression about his/her work and personality					

Signature

Full Name and Designation of the Mentor

Note: Use the space below (and/or attach separate sheet to elaborate on any aspect of the above). Also comment on any additional areas of strength or concern.

(Title ..... **)**

An **Experiential Learning through Training & Internship Report**

Submitted to

The Central University of Himachal Pradesh

as a partial fulfilment of the award of degree

of **Master of Arts in Economics**

In the Department of Economics,

School of Social Sciences

Under the Mentorship of

Name of the Mentor…… Designation

& Affiliation of the Mentor……

By

Name of the Student **……**

Registration No: (… ....)

MA-Batch (… .....)

Central University of Himachal Pradesh, Dehra, Kangra, Himachal Pradesh

Declaration

I declare that the **Experiential Learning through Training & Internship Report** entitled "Title of the report" is a record of original work undertaken by me as a partial fulfilment of the award of the degree of Master of Arts in Economics under the mentorship of Name and Designation of the mentor. I hereby confirm the originality of the work and ensure that this has not formed the basis for the award of any degree, diploma, associateship, fellowship, or other titles.

Place:

Date:

Name of the Student:

Roll No.

Name of Department:

Signature of the Mentor Name of the Mentor:

Designation:

Affiliation:

Signature

HoD
Department of Economics
Central University of Himachal Pradesh