Integral University, Lucknow

Effective from Session: 2022-25							
Course Code	A080601T / HE319	**Title of the Course**	Indian Economy & Economy of Uttar Pradesh	**L**	**T**	**P**	**C**
Year	III[rd]	**Semester**	VI[th]	**5**	**0**	**0**	**5**
Pre-Requisite	Intermediate	**Co-requisite**	None				
Course Objectives	This course exposes students to understanding of the Indian Economy & Economy of Uttar Pradesh. It highlights the organization, structure and role of studying Indian Economy.						

Course Outcomes

CO1	Students should be able familiar with the basic characteristics of Indian economy
CO2	Students should be able to understand the industrial reform.
CO3	Students should be familiar with the industrial policies.
CO4	Students should be able to understand the role of planning in India.
CO5	Students are able to understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.
CO6	Students should be able familiar with the it's potential on natural resources of Indian economy and the economy of Uttar Pradesh.
CO7	Students are able to develop an understanding about Uttar Pradesh , its demographic feature, natural resources and factors that cn stimulate its economic growth and development.
CO8	Students should be familiar with the rural development of Uttar Pradesh over the period of time.

Unit No.	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	Concept, Nature and structure of Indian Economy: Indian economy as a Developing Economy. Comparative Development of Indian States.	7	CO1
2	Agricultural Sector: Features of Agriculture sector in India, Problems and Remedies. Institutional Reforms, Technological change in Agriculture, Terms of Trade between Agriculture and Industry; Agricultural Policy, Policies for Sustainable Agriculture. Agrarian Crisis and Agricultural Labour.	7	CO2
3	The Industrial Sector: Industrial Policy; Public Sector Enterprises and their Performance, Privatization and Disinvestment debate, Small, Medium and Large-scale Sector, Industrial Labour, trade Union Movement. MSMEs.	7	CO3
4	Planning in India: Objectives and Strategy of Planning; Success story of Indian Plans; Strategy of Inclusive Growth. Resource mobilization for Development. NITI Ayog.	7	CO4
5	Nature, Features, Demographic Profile and Status of Natural Resources. Major Factors affecting growth and development in Uttar Pradesh. Role of Economic and non-economic factors in economic development of Uttar Pradesh	8	CO5
6	Sectoral growth pattern in Uttar Pradesh; Economic growth in Uttar Pradesh and Indian economy: A comparison. Infrastructural development of Uttar Pradesh	8	CO6
7	Pattern of land-holding and irrigation; production and productivity in agriculture, Farm mechanization, Crop diversification, agricultural credit, Agricultural policy and strategies in Uttar Pradesh, Rural Development in Uttar Pradesh.	8	CO7
8	Problems and Policies. Major industries in Uttar Pradesh, Pattern of Industrial Development in Uttar Pradesh, Industrial Policy in Uttar Pradesh, Growth pattern of Services sector and Its linkages of other sectors of UP Economy. Micro, Small, Medium Enterprises (MSMEs) in Uttar Pradesh. One Product One District (OPOD).	8	CO8

Reference Books:

1. Agarwal,,M K (2009): Uttar Pradesh ka Arthik Vikas. New Royal Book Company
2. Annual Financial Statement (Budget) of the Government of Uttar Pradesh published in different years & the latest.
3. Annual Financial Statement (Budget) of the Government of Uttar Pradesh published in different years & the latest
4. Annual Financial Statement (Budget)various years & Latest published by the Government of India
5. Indian Economy by Mishra & Puri. Himalaya Publishing House (Hindi /English)
6. Indian Economy. Rudra Dutt & Sunderam. S. Chand & Company (Hindi /English)
7. Mishra, Arvind Narayan & Atul Chandra (2018):The Economy of Uttar Pradesh. Gutenberg Publication ISBN: 9789386240224, 9789386240224
8. Publications of the Government of Uttar Pradesh.
9. Uttar Pradesh State Development Report, Volume I & II, State Plan Division, Planning Commission

E-Learning Source:

https://swayam.gov.in/

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4
CO1	3	3	3	-	-	3	-	3	3	1	3
CO2	3	3	3	-	-	3	-	3	3	1	3
CO3	3	3	3	-	3	3	-	3	3	1	3
CO4	3	3	3	-	1	3	-	3	3	2	3
CO5	3	3	3	-	3	3	-	3	3	2	3
CO6	3	3	3	-	3	3	-	3	3	2	3
CO7	3	3	3	-	-	3	2	3	3	3	3
CO8	3	3	3	-	-	3	-	3	3	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Effective from Session: 2024-25							
Course Code	A080603T/ HE322	**Title of the Course**	**Econometric Theory and Application**	**L**	**T**	**P**	**C**
Year	III[rd]	**Semester**	Vi[th]	**5**	**0**	**0**	**5**
Pre-Requisite	Intermediate	**Co-requisite**	None				
Course Objectives	Though Econometrics is an amalgam of economic theory, mathematical economics and statistical theory, it needs to be studied separately for many reasons. Econometric methods have proved particularly useful for understanding the interrelationships in the economic variables. Use of econometrics has given greater precision in establishing such relationships. The syllabus includes the basic concepts of estimation and the estimation of linear regression model by applying OLS method. The students are also supposed to learn the problems associated with OLS estimation like auto-correlation, Heteroscedasticity and Multicollinearity. The lag econometric models along with the use of dummy variables are also a part of the syllabus. Hope all these will add vigor to the understanding of economic problems.						

Course Outcomes	
CO1	Understand Various Natures of Econometrics and Economic Data.
CO2	Understand and Evaluate Theoretical Frequency Distribution.
CO3	Evaluate Consequences and Find Remedial Measures if CLRM Assumptions are Violated.
CO4	Evaluate Consequences and Find Remedial Measures if GLRM Assumptions are Violated.
CO5	Understand the Problems in OLS Estimation.
CO6	Understand the Concept of Lag Model & Dummy Variables.
CO7	Understand the Concept of Time Series and its Application in Economics and Finance.
CO8	Understand the Concept of Lag Model & Dummy Variables.

Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1.	**Nature of Econometrics and Economic Data:** Definition of Econometrics & Scope of Econometrics– Steps in Empirical Economic Analysis - Econometric Model – The Role of Measurement in Economics – The Structure of Economic Data: Cross-Sectional data, Time Series data, Pooled Cross Section data, Panel Data.	07	CO1
2.	**Theoretical frequency distribution:** Theoretical frequency distribution and application of binomial, Poisson and normal; Testing of hypothesis; Type-I and Type-II errors; Standard errors, Tests based on Z, t and $\chi 2$ (Chi-square) statistics.	07	CO2
3.	**Simple Linear Regression Model:** Assumptions, estimation (through OLS method), desirable properties of estimators; Gauss-Markov Theorem, interpretation of regression coefficients, Testing of regression coefficients, Test for regression as a whole, Coefficient of determination.	07	CO3
4.	**General linear regression model:** Assumptions, Estimation, and interpretation of regression coefficients; Testing of regression coefficient; Test for regression as a whole, Coefficient of determination; Non-linear models and their estimation.	07	CO4
5.	**Problems in OLS Estimation:** Problems of Heteroscedasticity; Auto correlation (first order); Multicollinearity– consequences, tests and remedies	08	CO5
6.	**Lag Model & Dummy variables:** Introduction– Types of Lag schemes - Koyck lag model, Partial Adjustment and Adaptive Expectations models. Dummy variables- Nature of Dummy variables- Use of Dummy Variables – Errors in Variables and its consequences; Use of dummy variables for pooled data; Proxy variables – Concept and uses.	08	CO6
7.	**Time series method:** Stationarity, unit roots, co-integration-spurious regression, Dickey-Fuller test: Causality in Economics – The Granger Causality Test. Random walk model, Error correction mechanism, ARMA model; Identifying ARMA; Vector auto-regression; Problems with VAR modelling – Applications.	08	CO7
8.	**Simultaneous Equations Method:** Specification – Simultaneous Bias – Inconsistency of OLS Estimators - The concept of Identification, Rank and Order conditions for Identification – Indirect Least Squares – Two stage Least Squares (without proof), Problems.	08	CO8

Reference Books:

Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, Cambridge, Mass.

Koutsoyiannis, A. (1977), Theory of Econometrics (2nd ed.), The Macmillan Press Ltd., London.

Theil, H. (1981), Introduction to Econometrics, Prentice Hall of India, New Delhi

Gujarati, D.N. (1995), Basic Econometrics (2nd Edition), McGraw Hill, New Delhi.
Wooldridge, Jeffery M: Econometrics, Cengage Learning India Pvt. Ltd, New Delhi.
Dongherty, C. (1992), Introduction to Econometrics, Oxford University Press, New York.
Goldberger, A.S. (1998), Introductory Econometrics, Harvard University Press, Cambridge, Mass.
Hill R.C., E.G. William and C.G. Judge (1997), Undergraduate Econometrics, Wiley, New York.
Maddala, G.S. (Ed.) (1993), Econometrics Methods and Application (2 Vols.), Adershot U.K.
E-Learning Source:
https://swayam.gov.in/ http://www.ignouhelp.in/ignou-study-material/

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)										
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4
CO1	3	2	3	1	2	1	3	2	1	3	2
CO2	2	3	2	3	1	2	2	1	1	2	1
CO3	3	1	3	1	2	3	1	3	2	1	3
CO4	1	2	1	2	3	1	3	2	1	3	2
CO5	3	3	2	3	2	3	1	1	2	2	1
CO6	1	2	3	2	2	2	2	2	3	1	2
CO7	2	1	1	1	1	3	3	2	1	3	2
CO8	3	3	2	3	3	3	2	2	2	1	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Integral University, Lucknow

Effective from Session: 2024-25							
Course Code	A080606T / HE323	**Title of the Course**	Industrial Statistical Overview- Practical Approach	**L**	**T**	**P**	**C**
Year	IIIrd	**Semester**	Vith	**5**	**0**	**0**	**5**
Pre-Requisite	Intermediate	**Co-requisite**	None				
Course Objectives	The course focuses on a set of countries, which followed clearly diverse trajectories and patterns of growth to achieve their industrial						

Course Outcomes

CO1	Students will develop theoretical understanding regarding various Statistical Organization and its Scope and Coverage.
CO2	Students will have understanding of the Population Statistics and the Utility of population statistics.
CO3	After the completion of the course the students will be able to understand Agriculture Statistics and Indices of Agricultural Production.
CO4	They will be able to understand Industrial Statistics.
CO5	The course will serve as a good base for further higher research studies etc
CO6	Students will have understanding of Financial Statistics, Price Statistics.
CO7	Students will have understanding of Wage Statistics and Trade Statistics.
CO8	Student will have knowledge of National Income Statistics & National Sample Survey (NSS).

Unit No.	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	**Statistical Organization** Statistical Organization: Early beginnings; 18th Century; 19th Century; 20th Century; Present Position. Improvement in Methodology, Scope and Coverage	8	CO1
2	**Population Statistics** Census Procedure Upto 1931; Change in 1941; Census of 1951; Information collected, General Criticism of Indian Population Census; Census of 1961 – Some suggestions. Vital Statistics –Shortcomings, Demographic Surveys, Utility of population statistics	7	CO2
3	**Agriculture Statistics** Area Statistics; temporarily settled areas and permanently settled areas; Yield Statistics; Traditional Method; Random Sampling Method; Crop-estimates J Land Utilization Statistics; Publication on Agricultural Statistics; General Shortcomings of Agricultural Statistics, Indices of Agricultural Production: Reserve Bank of India Index; Eastern Economist Index; F.A.O. Index. Miscellaneous Agricultural Statistics: Livestock Statistics-Statistics of Holdings; Forest Statistics of Mines and Minerals.	7	CO3
4	**Industrial Statistics** Early Statistics, Present Position, Annual Census of Manufacturers; Statistics of Industrial Output, Indices of Industrial Production and Profit : Eastern Economists Index, Index used by Ministry of Commerce and Industry, Capital Index of Industrial Activity.	8	CO4
5	**Financial Statistics** Publication containing financial statistics and their study	7	CO5
6	**Price Statistics** Harvest Prices; Other prices. Publication containing price statistics Price Index Number: Index Number of Harvest Prices, Economic Adviser's Index of Wholesale Prices; Economic Adviser's Index of Wholesale Prices.	8	CO6
7	**Wage Statistics and Trade Statistics** Publication containing Wage Statistics – Labour bureau Index of Earnings of Factory Workers. Agriculture Wages, Publication containing Statistics of Inland and Foreign (Sea, Air and Land) Trade of India and their detailed study	7	CO7
8	**National Income Statistics & National Sample Survey (NSS)** Important Methods of Calculation; Difficulties in the calculation of India's National Income; Technique suitable to Indian Condition; Estimate of India's National Income; Special feature of India's National Income Beginning Method (NSS); First round ; Subsequent rounds; Assessment of results and Information collected.	8	CO8

Reference Books:

1. Elhance, D. N. (1962). Fundamentals of statistics. Kitab Mahal.
2. UNIDO. Handbook of Industrial Statistics.
3. UNIDO. International Yearbook of Industrial Statistics.
4. UNIDO. Industrial Development Report.

E-Learning Source:

- Swayam

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7				
CO1	3	3	3	-	-	3	-	3	3	1	3
CO2	3	3	3	-	-	3	-	3	3	1	3
CO3	3	3	3	-	3	3	-	3	3	1	3
CO4	3	3	3	-	1	3	-	3	3	2	3
CO5	3	3	3	-	3	3	-	3	3	2	3
CO6	3	3	3	-	3	3	-	3	3	2	3
CO7	3	3	3	-	-	3	2	3	3	3	3
CO8	3	3	3	-	-	3	-	3	3	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Effective from Session: 2024-25							
Course Code	A080602T / HE320	**Title of the Course**	Agriculture Economics	**L**	**T**	**P**	**C**
Year	III[rd]	**Semester**	Vi[th]	**5**	**0**	**0**	**5**
Pre-Requisite	Intermediate	**Co-requisite**	None				
Course Objectives	This course exposes students to the basics of agriculture economics and the labour issues in agriculture sector. It explains the significance of agriculture in the economic growth and economic development of an economy.						

Course Outcomes	
CO1	Understand the interrelationship between agriculture and industries though agricultural development models.
CO2	Study the agricultural production function and agricultural price policy in India.
CO3	Understand the concept of rural poverty and poverty alleviation programmes along with the problems and policies of agricultural labour.
CO4	Understand the current issues in Indian agriculture.
CO5	Demonstrate the role of agriculture in economic growth and development in India.
CO6	Understand the concept of green revolution and significance of land reforms in India.
CO7	Identify the role of institutional and non-institutional credit in agricultural development of India.
CO8	Students will be able to understand the concept of agricultural marketing and agricultural diversification in India.

Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1	Models of Agricultural Development: W. A. Lewis model, Fei & Ranis Model, Inter relationship between agriculture and industry. Challenges & Issues Regarding Agricultural Area Expansion, Production and Productivity in India.	07	CO1
2	Agricultural Production Function, Supply Response, Farm Size, Returns to Scale and Productivity; Agricultural Price Policy in India, Agricultural policy in India since 1947 – institutional and technological changes; impact on production, productivity and environment.	08	CO2
3	Labour in Agriculture, Labour and Work Force in Rural Farm and Non-Farm Sectors. Agricultural Labour- Problem and Policy. Concept and Measurement of Rural Poverty & Employment, Poverty Alleviation Programmes (in brief- the Objectives, Achievements & the Shortcomings).	07	CO3
4	Current Issues in Indian Agriculture- Poverty & Food Security in India, Agro- Subsidies in India. Export and Imports of Agricultural Commodities, WTO and Indian Agriculture-Bali Negotiations, Bio – technological practices and growth potential.	08	CO4
5	Role Of Agriculture in Economic Growth and Development in India. Backward, Forward Linkage between Agriculture and Industry, Approaches towards Agriculture and Allocation of Resources under Different Plans in India. Employment Elasticity in Indian Agriculture	07	CO5
6	Land Reforms in India & Its Contemporary Relevance, Green Revolution and the Need for Second Generation Green Revolution, Role of Infrastructural Support-Irrigation, Power, Seeds Fertilizers, Marketing Support System and Roads in Agricultural Development in India.	08	CO6
7	Role of Credit in Agricultural Development, Institutional & Non-Institutional Sources of Credit in India, Cooperative Movement in India (In Brief). Role of Schedule Commercial Banks, Lead Banks, Regional Rural Banks and NARBAD to Promote Agricultural Development, Risk and uncertainty in agriculture – crop insurance.	08	CO7
8	Agricultural Marketing: Meaning and Concept. Structure of Agricultural Markets in India, Issues and Challenges in the Marketing of Agricultural Products in India. Agricultural Diversification: Meaning, Concept & Issues. Crop Diversification: Meaning, Concept and Issues.	07	CO8

Reference Books:

1. Bardhan, P. (1984) Land, Labour and Poverty; Essays in Economic Development, OUP, New Delhi.
2. Bhaduri, A. (1984), The Economic Structure of Backward Agriculture; Macmillan, Delhi.
3. Bhalla, G.S., (2007) Indian Agriculture since Independence, National Book Trust, India.
4. Bharadwaj, K. (1974), Production Condition in India Agriculture; OUP, Cambridge.
5. Black, J.D, (1953) Introduction to Economics for Agriculture, Macmillan.
6. Dash, Mrutyunjay (2013): Agricultural Economics, Anmol Publications.

E-Learning Source:

https://swayam.gov.in/
http://www.ignouhelp.in/ignou-study-material/

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)										
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4
CO1	3	2	3	1	2	1	3	2	1	3	3
CO2	2	3	2	3	1	2	2	1	1	2	3
CO3	3	1	3	1	2	3	1	3	2	1	3
CO4	1	2	1	2	3	1	3	2	1	3	2
CO5	3	3	2	3	2	3	1	1	2	2	2
CO6	1	2	3	2	2	2	2	2	3	1	2
CO7	2	1	1	1	1	3	3	2	1	3	3
CO8	3	3	2	3	3	3	2	2	2	1	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Effective from Session: 2024-25							
Course Code	A080603T/HE321	**Title of the Course**	Elementary Mathematics	**L**	**T**	**P**	**C**
Year	III[rd]	**Semester**	Vi[th]	**5**	**0**	**0**	**5**
Pre-Requisite	Intermediate	**Co-requisite**	None				
Course Objectives	The objectives of the course are - to enable the students to learn the basic concepts of mathematics and their application in economics. and enable them to understand the basics of differential & its application in economics.						

Course Outcomes	
CO1	To understand the basic concepts of mathematics and their application in economics.
CO2	To comprehend & explain the concepts of straight lines slope etc. of mathematics and its application in economics.
CO3	To understand mathematical techniques and use in Economics.
CO4	To know about Progression, Growth Rate, Equilibrium.
CO5	To able to understand basics of differential & its application in economics.
CO6	To know about elasticities and its use in Economics.
CO7	To understand and work with matrices.
CO8	To understand and work with the concepts of linear programming & graphic methods.

Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1	Basic Concepts: Variables, Sets, Functions, Equations, Identities, Systems of Equations	7	CO1
2	Application of Straight Line System, Slope of the Line, Homogeneous Function.	7	CO2
3	Role Of Mathematical Techniques In Economic Analysis, Theory of Numbers, Indices and Factorization.	8	CO3
4	Progression, Growth Rate, Equilibrium	7	CO4
5	Basics of Calculus: Rules of Differentiation of a Function; Maxima and Minima,	7	CO5
6	Elasticities; Inter- relationships among Total, Marginal and Average Cost and Revenues; Constrained Optimisation Problem; Integration of a Function, Consumer's and Producer's Surplus	9	CO6
7	Matrix and Determinants: Various types of Matrices, Determinants, Inverse of a Matrix,Crammer's Rule.	8	CO7
8	Concept of Linear Programming — Graphic Methods.	7	CO8

Reference Books:

1. Agarwal, D.R. (2009): Mathematics for Economics, Vrinda Publications, Delhi. Livernois,John., Rees,Ray., & Hoy,Michael (2012) : Mathematics for Economics , PHI Learning.
2. Madnani, G M K : Mathematics for Economics. Sultan Chand & Sons
3. Allen,R.G.D (2008) : Mathematical Analysis for Economics , AITBS
4. Sharma,J.K(2007):BusinessMathematics,AneBooksPvt.Ltd.
5. Rosser,Mike (2003) : Basic Mathematics for Economists , Routledge.

E-Learning Source:

https://swayam.gov.in/
http://www.ignouhelp.in/ignou-study-material/

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)										
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4
CO1	3	2	3	1	2	3	2	3	2	1	3
CO2	2	3	2	2	1	2	1	2	1	1	2
CO3	3	3	3	1	2	3	2	1	3	2	1
CO4	2	2	2	2	1	2	1	3	2	1	3
CO5	3	3	2	1	2	3	2	1	1	2	2
CO6	2	2	3	2	2	2	2	2	2	3	1
CO7	2	2	2	1	1	2	1	3	2	1	3
CO8	3	3	2	1	1	3	1	2	2	2	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Effective from Session: 2024-25							
Course Code	A080604R/HE324	**Title of the Course**	Dissertation/Project	**L**	**T**	**P**	**C**
Year	III[rd]	**Semester**	Vi[th]	**2**	**0**	**1**	**3**
Pre-Requisite	Intermediate	**Co-requisite**	None				
Course Objectives	Students will acquaint themselves and experience the local issues of economic implications or focus on economic well-being and behavior of consumers/citizens. The students will be able to use and apply the learned economic principles to local economic issues.						

Course Outcomes	
CO	To develop economic thinking in the students through direct experience in real life.

Unit No.	Content of Unit	Contact Hrs.	Mapped CO
1	Dissertation Topic on the Local / Current Issues with Economic Focus plus Presentation using Ppt. The dissertation Report will be prepared using Statistical/Research Techniques Surveys, Questionnaires/interview schedules. The questionnaire/Interview Schedule must be attached to the report as an annexure.	30	1

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)									
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**