

R.M.P.S. UNIVERSITY, ALIGARH



SYLLABUS
FOR Pre – Ph.D Course Work in ECONOMICS
2026

Supervising and Advisory Committee for preparing syllabus for Raja Mahendra Pratap State University, Aligarh

S.N.	Name	Designation	Department	College/University
1.	Professor Indu Varshney (Convenor)	Professor	Dept. of Economics	D S College, Aligarh.
2.	Professor Md Mahmood Alam (Member)	Professor	Economics	D S College, Aligarh.
3.	Professor Sheo Kumar Singh (Member)	Professor	Dept. of Economics	S . V College , Aligarh.
4.	Prof Sahab Singh (Member)	Professor	Dept. of Economics	Seth P. C Bagla College, Hathras .
5.	Dr. Neeraj Kumar Mishra (Member)	Associate Professor	Dept. of Economics	Ganjdundwara College, Kasganj.
6.	Dr Krishna Bajpai (Member)	Associate Professor	Dept. of Economics	Shri Tika Ram Girls (PG) College, Aligarh.
7.	Prof Umme Kulsum (Member)	Professor	Dept. of Economics	Shri Tika Ram Girls (PG) College , Aligarh.
8.	Prof Manmohan Krishan , Chair Professor, Niti Ayog (Expert)	Professor	Dept. of Economics	University of Allahabad, Prayagraj.
9.	Prof A. P. Pandey (Expert)	Professor (Retired)	Dept. of Economics	B. H. U. Varanasi.

Indu Varshney *Dr. Neeraj Kumar Mishra* *Prof. Sahab Singh* *Prof. Manmohan Krishan* *Prof. A. P. Pandey*

Ph.D. PROGRAMME: COURSE WORK

The course work is an integral part of the Ph.D. Degree in Economics of The RMPSU Aligarh.

1. Objectives:

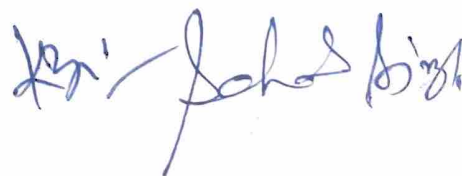
The objectives of this course are to:

- Enable scholars to appreciate and understand the meaning, complexity and challenges of research.
- Provide them skills and knowledge to enable them to chart their own course in research; specifically, in framing researchable topic, choosing an appropriate research design, analysing data, interpreting results and preparing their thesis.
- Highlight the implications of their research for theory and policy and understanding the limitations.
- Enable scholars to avoid the pitfalls and errors commonly made by research students.
- Enable scholars to identify their own contribution.

2. Course Structure:

Course Work: Ph.D.				
MODUL E	COURSE TITLE	COURSE CODE	CREDI TS	MODE OF EVALUATION
1.	Research Methodology in Economics	ECO-601	4	Written Examination
2.	Quantitative Techniques for Economics and their Applications	ECO-602	4	Written Examination
Total Credits			8	

This course is entirely consistent with the regulations laid down by the UGC for Course Work for Ph.D. degree. The classes will be held as per programme to be announced at the commencement of the course by the Department.



3. Syllabus of the Course work

Course Title: Research Methodology in Economics

Course Code: ECO-601

Credits: 4

COURSE CONTENT:

Unit I: Basic Concepts in Research Methodology

Research – Definition, Objective of Research, Types of Research – Descriptive, Exploratory, Quantitative, Qualitative, Explanatory, applied; Steps of Research Process, Defining the Research Problems, Research Design. Reviewing existing literature, Designing and developing questionnaires/ Schedule.

Methods of Data Collection in Quantitative and Qualitative Research, collecting data using primary and secondary sources, Processing and Displaying Data, Descriptive Statistics

Measurement and Scaling Techniques, Scale Evaluation- Measurement Accuracy, Reliability, Validity, Relationship Between Reliability and Validity.

Unit II: Probability and Sampling Distributions

Random variable, Probability distributions- Discrete and Normal Distribution.

Other Theoretical Distribution: Students “t” Distribution, Chi-Square (χ^2) Distribution and F- Distribution.

Population and sample, Parameter and statistic, Census method and sampling method of Data collection, Methods of Sampling, Sampling Design, Sample Size and its Determinants, Sampling Distribution.

Unit III: Hypothesis Testing

Testing of Hypothesis, Basic concepts, Computation of Test statistic and significance Test, Concept of degrees of freedom, Small sample test: t Test- χ^2 test, F test, Large sample test: Z test. Non-parametric tests, Analysis of Variance. Multivariate Analysis Techniques.

Unit IV: Academic Writing

Overview of academic writing and its importance, Writing research papers- Structure, Style and Formatting and publishing.

Presenting findings clearly and concisely, interpreting results, Discussing implications, limitations, and future research directions. Research Ethics.

Proper citation practices and referencing styles (APA, Chicago, etc.), Tools for managing citations and avoiding plagiarism.

Sub
Seir

Nalew

Quilon

For: Sahas Bhat

References:

1. Dawson, Catherine, Practical Research Methods, New Delhi, UBS Publishers' Distributors.
2. Kothari, C. R., Research Methodology-Methods and Techniques, New Delhi, Wiley Eastern Limited.
3. Kumar, Ranjit, Research Methodology-A Step-by-Step Guide for Beginners, Singapore, Pearson Education.
4. Shrivastava, Shenoy & Sharma, Quantitative Techniques for Managerial Decisions, Wiley
5. Goode W J & Hatt P K, Methods in social research, McGraw Hill
6. Basic Computer Science and Communication Engineering–R.Rajaram (SCITECH)
7. M. Cohen and E. Nagal–An Introduction to logic and Scientific method, New York
8. Pauling V. Young – Scientific Social Surveys and Research, Prentice Hall – (Dorsey Press), New York.
9. Gupta, S.C., Fundamentals of Statistics, Himalaya Publishing House.
10. Gupta, S.C. and Kapoor V.K., Fundamentals of Applied Statistics, S. Chand, New Delhi.
11. Whitaker. Anne, A Step-by-Step Guide to Writing Academic Papers.
12. R Vkumar, C. P., On Writing a Thesis, IETE Journal of Education, Taylor and Francis
13. Booth, W. C., Colomb, G. G., & Williams, J. M., The Craft of Research, University of Chicago Press.

John
Ranjit

Aditya

Arjun

Dr. S. S. Singh

Course Code: ECO-602
Credits: 4

COURSE CONTENT:

Unit I: Classical Linear Regression Models (CLRM) and Multivariate Linear Regression Model

Ordinary least squares (OLS) estimation, the Classical assumptions, the Gauss-Markov theorem and properties of the OLS estimators, Functional Forms of Regression Model, Interpreting regression results, Violations of Classical Assumptions: Consequences, Detection and Remedies Multiple Regression Equation

Unit II: Dummy Variable and Simultaneous-Equation Models (SEM)

Concept of dummy variable, dummy independent variable, dummy dependent variable: LPM (Linear probability model), Logit, Probit, Multinomial Logit, Probit and Tobit models.

Rationality behind the use of SEM - simultaneous bias and inconsistency of the OLS estimator, Structural, reduced form and final form model, Problem of Identification, Methods of estimation.

Unit III: Time Series and Panel Data Analysis

Stochastic Time Series Models, Stationarity and Testing for Unit Root, Co-integration, ARIMA Models, Stationarity, The Autocorrelation Function, The Partial Autocorrelation Function, Box–Jenkins Model Selection, Properties of Forecasts, ARCH and GARCH models. Vector Auto-Regression (VAR) Models

The Fixed Effects Model, the Random Effects Model, Panel Unit Root and Co-integration. Dynamic panel data model

Unit IV: Non-Linear Regression Models and Estimation

The method of Principal Component analysis, Non-linear Regression Functions, Estimation of Nonlinear Regression. Decomposition technique for linear regression models; Impact Evaluation, Difference -in- Differences (DD) Design, Instrumental Variable (IV) Method. Uses of statistical Software's.

Estimation of Nonlinear Regression. Decomposition technique for linear regression models; Impact Evaluation, Difference -in- Differences (DD) Design, Instrumental Variable (IV) Method. Uses of statistical Software's.

References:

1. Baltagi, B.H., Econometric Analysis of Panel Data, Wiley.
2. Cameron A.C. and P. K. Trivedi, Micro Econometrics: Methods and Applications, Cambridge University Press, Cambridge.
3. Gujarati, D, Basic Econometrics, New York: McGraw Hill
4. Hamilton, JD, Time Series Analysis, Princeton University Press, New Jersey.
5. Hsiao, C., Analysis of Panel Data, Cambridge University Press, Cambridge.
6. Johnston, J, Econometric Methods, New York: McGraw Hill.
7. Koutsoyiannis, A., Theory of Econometrics, Palgrave Macmillan.
8. Lutkepohl, Helmut, New Introduction to Multiple Time Series Analysis, Springer, New York.
9. Pindyck, Robert S, and Daniel Rubinfeld, Econometric Models and Economic Forecasts, Irwin McGraw-Hill, New York.
10. Walter Ender, Applied Econometric Time Series, Wiley.
11. Wooldridge, J., Introductory Econometrics, South-Western College Pub.

Indu P
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