KAUTILYA SCHOOL OF PUBLIC POLICY

GITAM (Deemed to be University)
Rudraram, Patancheru Mandal
Hyderabad, Telangana 502329

Course Code: PPOL6491	**Course Title**: Elements of Econometrics	
Trimester: 3	**Course Type**: Elective	**Credits**: 3
Home Program(s): MPP	**Batch/Academic Year**: 2023-25	
Course Lead: Dr. Amrendra Pandey	**Assigned TA/RA:** Mr. Pritish Anand, Mr. Shubham Arya	

Course Description

This course will provide an introduction to the main methods of econometric analysis and their applications. It presents some of the basic methods used in empirical research and enables students to gain understanding and practical experience so as to enhance the ability for good quality empirical work and critical evaluation of research results.

Learning Objectives

- To understand the basics of inferential statistics and econometrics
- Understand the basic assumption of econometric models
- Apply econometric models in policy issues
- To understand the main methods of econometric analysis and their applications

Course Outcomes

On successful completion of this course, students will be able to:

1. To display knowledge of various inferential statistic results
2. To apply statistical tools
3. To synthesize meaning out of data using statistical tools
4. To gain understanding and practical experience so as to enhance the ability for good quality empirical work and critical evaluation of research results.

Textbooks and Course Materials

- Gujarati, D.N, and Porter, D.C (2009). Basic Econometrics. McGraw Hill Higher Education
- Gujarati, D. N., Porter, D. C., & Pal, M. (2020). Basic econometrics. McGraw Hill

Additional Books

- Greene, W. (2003). Econometric Analysis. Prentice Hall-Pearson Education.
- Campbell, J.Y et.al (2007). The econometrics of Financial Markets. Princeton University Press
- Pfaff. B. (2008). Analysis of integrate and co-integrated time series using R. Springer Science and Business Media.
- Black, K. (2020). Business statistics: For contemporary decision making.

Course Schedule

Unit I	**Sessions: 4**	**Introduction to econometrics**
• Introduction to Regression • Introduction to R and Data Processing • Introduction to Econometrics		
Unit II	**Sessions: 5**	**Two Variable Regression Analysis : Basic Ideas**
• Nature of Regression Analysis • Two variable Regression Analysis: Some Basic Idea • Two variable Regression Analysis: The Problem of Estimation		
Unit III	**Sessions: 5**	**Two Variable Regression Analysis: Interval Estimation and Hypothesis testing**
• Classical Normal Linear Regression Model (CNLRM) • Two Variable Regression Analysis: Interval Estimation • Two Variable Regression Analysis: Hypothesis Testing		
Unit IV	**Sessions: 5**	**Extension of the Two Variable Regression Model**
• Extension of the Two Variable Linear Regression Model • Multiple Regression Analysis: The Problem of Estimation and Inference • Dummy Variable Regression Model		
Unit V	**Sessions: 5**	**Relaxing The Assumptions of the Classical Model**
• Multicollinearity: What Happens if the Regressors are Correlated? • Heteroscedasticity: What Happens if the Error Variance is Nonconstant? • Autocorrelation: What Happens if the Error Terms are Correlated?		