

## BS (4 Years) for Affiliated Colleges



Code	Subject Title	Cr. Hrs	Semester
<b>STAT-409</b>	<b>Applied Econometrics (Theory)</b>	<b>3</b>	<b>VIII</b>
Year	Discipline		
<b>4</b>	<b>Statistics</b>		

Code	Subject Title	Cr. Hrs	Semester
<b>STAT-410</b>	<b>Applied Econometrics (Practical)</b>	<b>1</b>	<b>VIII</b>
Year	Discipline		
<b>4</b>	<b>Statistics</b>		

### Course Outline

1. Non-spherical disturbances, Consequences of using OLS estimators, ML method assumption and estimation, Generalized least squares; assumption, estimation, properties of GLS estimators. Aitken theorem, Stochastic regressors.
2. Multicollinearity: types, reasons, consequences, remedial measures, Farrar and Glauler test.
3. Heteroskedasticity: Reasons, tests, remedial measures.
4. Autocorrelation: Reasons, tests, remedial measures, consequences.
5. Specification Errors: Over and under specified models and their consequences. Error in variables.
6. Other variables: Instrumental variables, Lagged variables, Dummy variables.
7. Other regression: Polynomial regression, Orthogonal polynomials and their use.
8. Systems of simultaneous linear equations: Reduced form equations, Simultaneous equations Bias. Identification (order and rank conditions), Methods of estimation for identified equations.
9. Income and Wealth distribution: Techniques for income distribution analysis (Lovernz curve, Gini coefficients, Pareto curve).

### Recommended Books:

- Gujrati, D. "Basic Econometrics", McGraw Hill Book Company, Third Edition, 1995.
- Johnston, J. "Econometric Methods", McGraw-Hill Book Company, Third Edition, 1985.
- Koutsoyiannis, A. "Theory of Econometrics", Macmillan Press Ltd., Hong Kong, 1979.
- Maddala, G.S. "Introduction to Econometrics", John Wiley, India, Third Edition, 2005.
- Ramanathan, R. "Introductory Econometrics with Applications", South-Western Thomson Learning, USA, Fifth Edition, 2002.

**Reference Books:**

- Dutta, M. “Econometric Methods”, South-Western Publishing Company, England, 1975.
- Goldberger, A.S. “Econometric Theory”, John Wiley and Sons, New York, 1964.
- Wonnacott, T.H. and Wonnacott, R.J. “Econometrics”, John Wiley and Sons, New York, 1979.
- Draper, N.R. and Smith, I.I. “Applied Regression Analysis”, John Wiley & Sons, New York, 1998.