Module Code:	STAT-403 STAT-404
Module Title:	• Basic Econometrics (Theory) – 3 Credit Hours • Practical – 1 Credit Hour
Name of Scheme:	BS Statistics

Course Outline

1. **Econometrics**
   Its nature, methodology and functions.
2. **Simple Linear regression**
   Ordinary least squares method; assumptions and estimation. Maximum likelihood method; assumptions and estimation, Properties of OLS and ML estimators. Partition of total sum of squares. Sampling distribution of sum of squares, Testing of hypotheses confidence intervals for the parameters and Linear combinations of parameter. Comparison of simple linear regressions, Chow test.
3. **General Linear regression**
   Ordinary least squares method; assumptions and estimation. Maximum likelihood method; assumptions and estimation properties of OLS and ML estimators. Partition of total sum of squares. Sampling distribution of sum of squares, Testing of hypotheses for the single, all some any parameters, Linear combinations of parameters. Comparison of general linear regressions, Chow test. Gauss Markov's theorem.
4. **Other topics**
   Stepwise regression, Ridge regression, GLR partitioned form: Estimator & testing of hypothesis, Use of extraneous information in linear regression.

Books Recommended

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

Reference Books

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