

**Research & P.G. Department of Economics**  
**Sacred Heart College, Thevara**  
**Value Added Course: INTRODUCTION TO ECONOMETRICS**  
**Course Code: 17ECOVAC01**

Duration of the course: 30 hours

*Course coordinator: Athira Binod*

**SYLLABUS**

**COURSE OUTCOME:**

Upon successful completion of the course the student will be able to use the many variations of the regression model to study the relationship between variables, understand the concept of random variable and analyse economic data.

**Module One:**

Classical Linear Regression Model—Meaning and methodology—Modern interpretation of econometrics—Population regression function (PRF) — The concept of linearity in econometrics—stochastic error—interpretation and its significance — Sample regression function (SRF) (5hrs)

**Module Two:**

Estimation of PRF—The method of OLS—Advantages of OLS—Numerical Properties of OLS estimators— Statistical properties of OLS— Gauss - Markov Theorem and the assumptions of Classical Linear Regression Model (5hrs)

**Module Three:**

Evaluation of SRF—Goodness of the Fit—R Square—Reliability and Precision of OLS estimators—Standard Error of the OLS Estimator and the Estimate (5hrs)

**Module Four:**

Hypothesis testing and estimation—Hypothesis testing of OLS estimators—t test—Point and interval estimation (Basics)—Introduction to Multiple Regression (5hrs)

### Module Five:

Relaxing the assumptions of Classical Linear Regression Model Heteroscedasticity—nature, estimation in its presence—detection and remedial measures— Autocorrelation—nature and estimation in its presence—detection and remedial measures— Multicollinearity—nature, estimation in its presence—detection and remedial measures

(10hrs)

### Readings:

- 1) Gujarati, Porter and Gunasekhar, Basic Econometrics, Fifth Edition
- 2) A Koutsoyiannis, Theory of Econometrics, Second Edition, Palgrave Macmillan
- 3) Chandan Mukherjee, Howard White and Marc Wytus, “Econometrics and Data Analysis for Developing Countries”, Routledge
- 4) James H Stock and Mark W. Watson, Introduction to Econometrics, Pearson Education; 3rd edition
- 5) RamuRamanathan, Introductory Econometrics with Applications, S.Chand & Company Ltd; 5th Revised edition
- 6) Christopher Dougherty, Introduction to Econometrics. NewDelhi: Oxford University Press
- 7) Johnston .J. Econometric Methods. McGraw Hill.
- 8) Dominick Salvatore , Derrick Reagle, Schaum's Outline of Statistics and Econometrics, Second Edition, McGraw-Hill Education



  
Dr. Johnson X Palackappan  
Principal  
Sacred Heart College (Autonomous),  
Thevara, Kochi-682 013

