ECO-HC-4036: INTRODUCTORY ECONOMETRICS

Course Description

This course provides a comprehensive introduction to basic econometric concepts and techniques. It covers statistical concepts of hypothesis testing, estimation and diagnostic testing of simple and multiple regression models. The course also covers the consequences of and tests for misspecification of regressionmodels.

Course Outline

1. Statistical Background

Normal distribution; chi-sq, t- and F-distributions; estimation of parameters; properties of estimators; testing of hypotheses: defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test; tests for comparing parameters from two samples.

2. Simple Linear Regression Model: Two VariableCase

Estimation of model by method of ordinary least squares; properties of estimators; Gauss-Markov theorem; goodness of fit; tests of hypotheses; scaling and units of measurement; confidence intervals; forecasting.

3. Multiple Linear RegressionModel

Estimation of parameters; properties of OLS estimators; goodness of fit - R^2 and adjusted R^2; partial regression coefficients; testing hypotheses – individual and joint**;** functional forms of regression models; qualitative (dummy) independent variables.

4. Violations of Classical Assumptions: Consequences, Detection andRemedies

Multicollinearity; heteroscedasticity; serial correlation.

5. SpecificationAnalysis

Omission of a relevant variable; inclusion of irrelevant variable; tests of specification errors.

Readings

1. D.N.Gujarati and D.C.Porter,*EssentialsofEconometrics*,McGrawHill,4th edition, International Edition,2009.
2. Christopher Dougherty, *Introduction to Econometrics*, Oxford University Press,3rd edition,Indianedition,2007