Course Code: DI722

Course Title: Special Field of Economic Research II

Type of course: Optional (Credit 4)

Intended for: PhD (Economics), CITD, SIS, JNU

Objectives: The objective of this course is to provide aspiring PhD students with sound theoretical foundation in special fields of Economics in which they intend to pursue their research. The course is organized around several modules and a PhD student will require to choose and complete one module, depending on her/his research interest. Brief outline of these modules, along with the recommended readings is provided below.

1. **Macroeconomic Theory**

   The module introduces students to new developments in growth theory, their possible extensions and popular applications. It broadly covers growth models with exogenous savings, models with consumer optimization, and models of endogenous growth with extensions to inclusion of knowledge spillovers, public goods/ infrastructure, and human capital. Introduction to select developments in macroeconomics over the recent years in terms of the use of the optimal growth models is provided. The main applications are the use of the infinite horizon consumer optimization to savings and investment in the open economy, and applying overlapping-generations models to social security and altruism. There is a module on demand for money, and an introduction to the theory of short run economic fluctuations, with focus on real business cycles to explain the cyclical behavior of employment and output. Illustrative readings: *R. J. Barro and X. Sala-i-Martin, Economic Growth, Second Edition, Prentice Hall, India. 2004; O. J. Blanchard and S. Fischer, Lectures on Macroeconomics, Prentice Hall of India 1996; D. Romer, Advanced Macroeconomics, Second Edition, McGraw-Hill International Edition (Economics Series) 2001*

2. **Economics of Labour Markets and Education**

   This advanced applied course in labor and education will introduce students to some recent econometric approaches to applied microeconomics. We will cover theoretical, empirical and policy-related topics in labor economics and economics of education. The course will expose students to important theoretical and applied topics in such areas as labor supply theory, human capital (education and training), wage differentials, discrimination in labor markets, earnings inequality, signaling approach to education and the education production function. Some useful books include: *Cahuc, Pierre and Andre Zylberberg (2004), Labor Economics, MIT Press; Angrist and Pischke (2009), Mostly Harmless Econometrics, Princeton University Press; Handbook of Labor Economics and Handbook of Economics of Education (relevant volumes and chapters)*

3. **Economics of Technology and Development**

   Technology has been recognised as a key driving force behind economic growth and prosperity. There is a growing literature on the economics of technological progress, cutting across theories of industrial organisation, economic development and evolutionary economics. The objective of this module is to introduce students to this important literature, especially from the perspective of developing countries. Illustrative topics include: markets for technology, innovation and market structure, diffusion and learning, technology and development, and technology policy, IPR.

Illustrative readings include: *B. Hall and N Rosenberg (eds.) Handbook of the Economics of Innovation, Vol I and II, 2010; P. Stoneman (ed.), Handbook of Economics of Innovation and Technological Change, 1995; J. Schumpeter, Capitalism, Socialism and Democracy, 1943; Tirole, The Theory of Industrial Organisation, 1988. Chapter 10; several articles from leading Economic journals.*

4. **Financial Time Series Econometrics**

The objective of this module is to expose students to econometric methods used in empirical finance. The focus will be on econometrics of financial markets. Upon completion of this course students should be able to analyze financial time series data, critically review empirical works that use such data as well as to carry out their own empirical research. The course assumes familiarity with probability, statistics and econometrics. Familiarity with econometric software will be essential as assignments will have to be carried out using standard packages such as publication. Suggested Readings: J. D. Hamilton, 1994, *Time Series Analysis*, Princeton University Press; Walter Enders, 2004, *Applied Econometric Time Series,* John Wiley and Sons; Helmut Lutkepohl, 2006, *New Introduction to Multiple Time Series Analysis*, Springer; R. S. Tsay, 2005, *Analysis of Financial Time Series*, Wiley Series in Probability and Statistics, 2nd edition (RT); T. C. Mills and R. N. Markellos, *The Econometric Modelling of Financial Time Series,* 2008, Cambridge University Press, 3rd edition (TM)

5. **Law and Economics**

This module is an introduction to important topics in law and economics. Beginning with the applications of the Coase theorem to law and economics, and the choice between property rules, liability, communal rights, and regulations (touching on tort and contracts), we move on to the emergence of spontaneous order, the economics of the legal process, and the economics of crime. The readings include: *D. Wittman, Economic Foundations of Law and Organization; D. Friedman, Law's Order; and several journal articles from leading Economics journals.*

6. **Public Economics**

This module will draw on the classic literature on optimal taxation and cover in detail the theoretical aspects of second-best taxation and their implications for real life tax policies. Subject to time constraints, the topics covered will include commodity taxation, non-linear income taxation, optimal tax mix, corrective taxation of externalities, tax reforms, and issues in dynamic taxation. Illustrative readings are: *G. Myles, Public Economics, Cambridge University Press, 1995; relevant volumes of A. Auerbach and M. Feldstein (eds) Handbook of Public Economics; A. Atkinson and J. Stiglitz, Lectures on Public Economics, Mcgraw--Hill, 1980; The Mirrlees Review, Institute for Fiscal Studies, OUP, 2010; R. Guesnerie, A contribution to the pure theory of taxation, Cambridge University Press, 1998; articles from various journal*