Course title: Econometrics-II			
Course code: MPE 187	**No. of credits:** 4	**L-T-P:** 46–0–28	**Learning hours:** 60
Pre-requisite course code and title (if any): None			
Department: Department of Policy and Management Studies			
Course coordinator: Dr Priyanka Arora		**Course instructor:** Dr. Priyanka Arora	
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Course type: Core		**Course offered in:** Semester 2	

Course description:

This course builds on the basic understanding of causal inference using classical linear regression modelling using cross-sectional data. The course begins with developing an understanding of asymptotic analysis and deriving the asymptotic properties of an estimator, using the Ordinary Least Square Estimator as an example. Causal inference using multiple linear regression analysis is extended to models with qualitative information. Linear Probability Model thus serves both the purpose of an illustrative example of relinquishing the linearity assumption and motivating non-linearities in parameters. Understanding of non-linearities is put into practice for the data- generating process that involves censoring and truncation. In the last but important module, the understanding of omitted variable bias due to the underlying endogeneity is used to motivate linear panels and learn estimation and inference using Panel data models.

The students learn data analysis using both cross-sectional data and panel data using software such as STATA.

Course objectives:

1. To provide an understanding of the restrictive assumptions of the classical linear regression model and examples of violation and correction for causalinference.
2. To understand the problems of censoring and truncation in modelling the data generating process and remedial measures.
3. To understand and model panel data for causalinference.
4. To provide hands-on training in the use of statistical software for data analysis.