

## About IIT Kharagpur



IIT Kharagpur started its journey in the year 1951 in the old Hijli Detention Camp in Eastern India, where some of the country's great freedom fighters toiled and sacrificed their lives for India's independence. Spurred by the success of IIT Kharagpur, four younger IITs sprouted around the country in the two following decades, and from these five came thousands of IITians, the brand ambassadors of modern India. It was the success of this one institution at Kharagpur that wrote India's technological odyssey.

The Institute takes pride in its relentless effort to provide the best platform for both education as well as research in the areas of science and technology, infrastructure designs, entrepreneurship, law, management, and medical science and technology. IITKGP is not just the place to study technology, it is the place where students are taught to dream about the future of technology and beam across disciplines, making differences enough to change the world.



## Program Structure

1. Introduction to Econometric Modeling
2. Linear Regression
3. Regression Diagnostics
4. Simultaneous Equation Modeling
5. Limited Dependent Variable
6. Case studies and practice sessions using R/Excel
7. Test and evaluation

## Program Fee

Students: INR 3000

Academicians: INR 5000

Industry Executives:

INR 15000

\*inclusive of GST

**##Personal computers/laptops are required for the course**

## Program Schedule and Venue

Nov 18, 19, 25, 26

Dec 02, 2023

Time: 10am – 5pm

Online Mode

## Who will be benefitted? (Eligibility)

1. Data Analysts
2. Business Analysts
3. Financial Analysts
4. Industry/Banking Executives
5. Students and scholars (enrolled in UG / PG/ PhD programs)
6. Teachers (Business, Mgmt, Eng, Maths and Social Sc)
7. Economics Enthusiasts

## Last date of Registration

**November 15, 2023**

## How to Apply

Use the link: <https://erp.iitkgp.ac.in/CEP/courses.htm> to apply ONLINE.



Payment is to be done **ONLINE** after getting short listed for the program.

## Contact Us

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Department of Industrial and Systems Engineering

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ONLINE WEEK-END SHORT-TERM  
COURSE ON

## ECONOMETRIC MODELING FOR BUSINESS APPLICATIONS

ORGANIZED BY

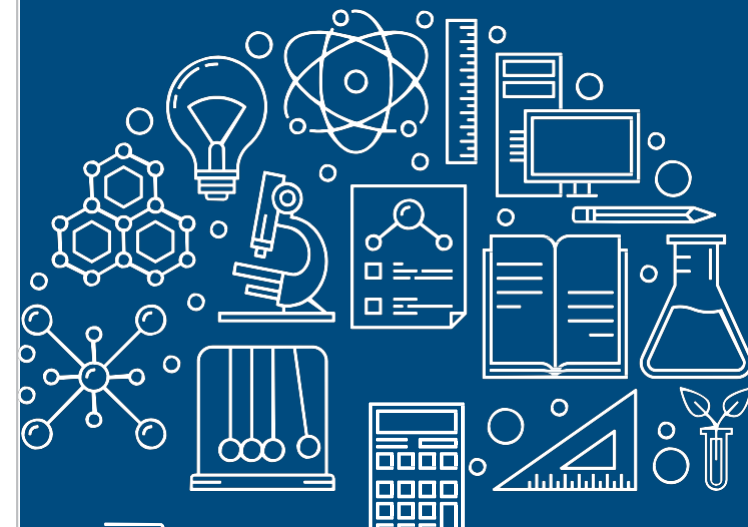
DEPARTMENT OF INDUSTRIAL & SYSTEMS  
ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY  
KHARAGPUR

NOV 18, 19, 25, 26

DEC 02, 2023

MODE : ONLINE



## Introduction / Overview

*Econometrics* means “economic measurement.” Although measurement is an important part of econometrics, the scope of econometrics is much broader. It is an amalgam of economic theory, mathematical economics, economic statistics, and mathematical statistics. Using economic data and applying mathematical and statistical tools, *Econometrics* provides empirical validity of abstract economic theory. However, application of Econometrics is not confined in the domain of economics, rather widespread application of econometrics is possible in other social science and pure science domains as well.

In this short-term course, the participants will be introduced with the theoretical background of Econometric Modeling, as well as the practical aspects with the help of business case-studies and hands on training using Excel and R. After successful completion of the course, the participants would be able to formulate econometric models to analyze data and then would be able to establish cause-effect relationship in their preferred areas of interest like economics, finance, management, engineering and science.

## Program Objectives

To build *competency* of the participants in

- Fundamentals of Econometric Modeling and its applications.
- Statistical Modeling to develop analytical and predictive capabilities.
- Exposure to practical problems and their solutions using R/Excel.

## What you will learn

### Program Content

<b>Introduction to Econometric Modeling</b>	Introduction to Econometrics, Basic Methodology, Types of Econometrics, Motivating Examples, Basics of Probability and Statistics
<b>Linear Regression</b>	Estimation of Simple and Multiple Linear Regression Models, Testing of Hypothesis, Model Selection, Interpretation of Results
<b>Regression Diagnostics</b>	Statistical Tests and Remedial Measures for Autocorrelation, Multicollinearity, Heteroskedasticity, Linearity, Normality, etc.
<b>Simultaneous Equation Modeling</b>	Why Simultaneous Equations Modelling, Identification Problem, Hausman Specification Test, Method of Indirect Least Squares, 2SLS and 3SLS
<b>Limited Dependent Variable Models</b>	Context and Examples, Estimation of Logit, Probit and Tobit Models, Interpretation of Results
<ul style="list-style-type: none"><li>• Case studies and live problems using R and Excel</li><li>• Certificate will be provided on successful completion of course and passing the evaluative examinations.</li></ul>	

## About the Faculty

### Principal Coordinator

**Dr. Sayak Roychowdhury**

Assistant Professor, Department of Industrial and Systems Engineering, IIT Kharagpur.

Expertise: Statistical Modeling, Statistical Learning, Quality Control, Quality Engineering.

### Joint Principal Coordinator

**Dr. Balagopal G Menon**

Assistant Professor, Department of Industrial and Systems Engineering, IIT Kharagpur.

Expertise: Mathematical Modeling, Statistical Learning, Quality Engineering, , System Dynamics and Policy Planning, Operations Management.

### Co-Coordinator

**Prof. Pulak Mishra**

Professor, Department of Humanities and Social Sciences, IIT Kharagpur; Joint Faculty Member of the Centre of Excellence on Safety Engineering & Analytics of this Institute, IIT Kharagpur.

Expertise: Industrial Economics, Public Economics and Policy, Economics of Rural Development, Econometric Modeling.

**Prof. Jhareswar Maiti**

Fellow (Royal Statistical Society, UK), Fellow (Institute of Engineers, India) and Suresh and Vidya Nair Chair Professor, Head of the Department of the Department of Industrial and Systems Engineering, IIT Kharagpur; Chairman, the Centre of Excellence on Safety Engineering & Analytics of this Institute, IIT Kharagpur

Expertise: Statistical Modeling, Multivariate Statistics, Safety Engineering and Analytics, Design of Experiments, Quality Engineering; Author of Multivariate Statistical Modeling in Engineering and Management, CRC Press.

