Department of Civil Engineering

Course Name:

Econometrics

Course Number: 20-563	**Credit:** 3
Program: Graduate	**Course Type:** Technical Selective
Prerequisite: -	**Corequisite:** -

Course Description (Objectives):

The aim of this course is to introduce the fundamentals of econometrics and its application in modeling and data analysis, with a focus on basic concepts, linear regression models, discrete choice models, and their estimation, evaluation, and analysis.

Course Content (outline):

- Chapter 1: Introduction to Econometrics and Its Applications
- Chapter 2: Overview of Statistical Concepts
- Chapter 3: Introduction to Linear Regression
- Chapter 4: Two-Variable Linear Regression
- Chapter 5: Multivariable Linear Regression
- Chapter 6: Qualitative Dependent Variables
- Chapter 7: Assumptions of Linear Regression Models
- Chapter 8: Introduction to Choice Models and Their Characteristics
- Chapter 9: Introduction to Logit Models
- Chapter 10: Probit Models
- Chapter 11: Generalized Extreme Value (GEV) Models
- Chapter 12: Mixed Logit Models
- Chapter 13: Application of Simulation in Model Development

References:

- Gujarati (2003) Basic Econometrics Fourth Edition.
- Train (2009) Discrete Choice Methods with Simulation.