Instructor
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Time and Location
Tuesday 9-12am, General Purpose Building 271215

Office Hours
Tuesday 2-4pm or by appointment.

Overview
The primary objective of this subject is to provide an introduction to the theory and application of quantitative methods (econometrics). The subject provides the foundation for further studies in Econometrics as well as serving the need of students undertaking further studies in economics and commerce. On completion of this subject, students are expected to use statistical software to manipulate data, test hypotheses, and conduct empirical questions on their own. Topics include estimation and testing of hypotheses, forecasting and construction of prediction intervals, use of appropriate functional forms, detection and correction of measurement problems, model specification, and use of statistical software programs for single equation regression analysis (STATA, Excel).

Textbooks
- Also, an interesting book related to econometrics

Grading
Students are evaluated based on their class attendance, problem sets, and one final exam according to the following distribution.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tr>
<td>Problem Sets</td>
<td>20%</td>
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<tr>
<td>Midterm</td>
<td>40%</td>
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<tr>
<td>Final</td>
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Course Outline

- Introduction, Economic Questions and Data (1 week)
- Review of Probability (SW 2, 2 weeks)
- Review of Statistics (SW 3, 2 weeks)
- Bivariate Regression I (SW 4, 2 weeks).
  - Probability framework.
- Bivariate Regression II (SW 5, 2 weeks).
  - Homoskedasticity
  - Estimation and Hypothesis testing.
- Multiple Regression I (SW 6, 2 weeks).
  - Omitted variable bias.
  - Multiple regression model.
- Multiple Regression II (SW 7, 1 week).
- Nonlinear Regression Models (SW 8, 1 week).
  - Modeling nonlinear regression functions.
  - Interactions between independent variables.
- Assessing Regression Studies (SW 9, 1 week).
  - Internal and external validity.
  - Threats to internal validity.
- Panel Data (SW 10, 1 week).
  - Panel data with two periods.
  - Fixed effects regression.
  - Random effects regression.
- Instrumental Variables Regression (SW 12, 2 weeks).
  - General IV regression model.
  - Checking instrument validity.
  - Where do IV come from?
- Experiments and Quasi-Experiments (SW 13, 2 weeks).
  - Difference-in-difference estimator.
  - Quasi-experiments.
  - Average treatment effect.