Econ 629  
Econometrics II  
Professor Tim Halliday  
Office Hours: By Appointment

Course Description:

This is the second part of the first-year graduate econometrics sequence at UH-Manoa. The course will cover four main topics: linear systems of equations, general M-estimation theory, specific examples of non-linear estimation (e.g. discrete choice, tobit, and selection models), and econometric issues in survey data. There will be 4 to 5 problem sets, one of which will be empirical. There will be one midterm exam sometime in October and a final.

Texts:


Lecture notes are also available on Laulima.

Course Requirements:

The requirements of this course are 4-5 problem sets, a midterm exam and a final exam. Your grade will be determined by the following formula:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Problem Sets</td>
<td>1/3</td>
</tr>
<tr>
<td>Midterm + Final</td>
<td>2/3</td>
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The highest score among the midterm and final will be weighted 2/3 and the lowest will be weighted 1/3.
Outline (Tentative):

NOTE ALL TOPICS ARE CONTAINED IN MY LECTURE NOTES

Review of Gauss-Markov and Aitken’s Theorem (Lecture Notes)

Panel Data (Lecture Notes)

    Fixed Effects Estimation; Generalized Least Squares; Maximum Likelihood

Linear Systems of Equations (Wooldridge: Ch 7-9, Amemiya: Ch 6-7)

    System Ordinary Least Squares ; Generalized Least Squares ; Seemingly
    Unrelated Regression ; Generalized Method of Moments ; Three-Stage Least
    Squares; Overidentification Tests; Simultaneous Equations

MLE and GMM (Wooldridge: Ch 14, Lecture Notes)

    Identification; Consistency; Asymptotic Normality; Variance Estimation; Testing;
    Two-Step Estimators

Non-linear Models (Wooldridge: Ch 15-16, Amemiya: Ch 9-10)

    Linear Probability Models; Probits, Logits; Dynamic Binary Choice Models;
    Multinomial Choice Models; Ordered Choice Models; Censored Regression
    Models; Selection Models

Treatment Effects (W: Ch 18, Lecture Notes)

    Average Treatment Effects, Propensity Scores, Balancing Scores, Selection on
    Observables, Local Average Treatment Effects

Issues in Survey Data (Deaton: Ch 1-2 – if time permits)

    Descriptive Statistics; Weighting; Stratification; Clustering; Bootstrapping;
    Heteroskedasticity; Quantile Regression; Panel Data; Instrumental Variables and
    Natural Experiments; Repeated Cross Sections; Sample Size and Hypothesis
    Testing