Brandeis University
Department of Economics

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184A – ECONOMETRICS
FALL 2008

Course Overview: In this class, we will derive the Ordinary Least Squares estimators (OLS) and prove the Gauss-Markov Theorem, which shows under what conditions these estimators are the best, linear, unbiased estimators (BLUE). We will further motivate the estimators using the Maximum Likelihood Principle and the Analogy Principle. We will start by studying bivariate regression models and move on to multivariate models, learning about hypothesis testing, inference, and goodness of fit. We will then move on to studying the consequences of violating the Gauss-Markov assumptions and how we might correct for these problems. Additional topics will include a brief introduction to time series analysis, cross-sectional and panel data issues, and limited dependent variable models.

Course Meeting Times: Section 1: M-W-TR 10a.m. - 11a.m. Section 2: 11a.m. - 12p.m.
Recitation: TBA

Textbook: The required textbook for this course will be:

Course Requirements: Mandatory attendance at lectures, the completion of course assignments, two midterms, a data project, and a final exam. Grading in the course will be as follows:

1. Assignments (15% of grade) – I will assign 6 assignments over the course of the semester. You are required to turn in all of these exercises. You must do these exercises on your own. ***Assignments will be due in class (due dates are given in the syllabus). NO late assignments will be accepted.***

2. Midterm exams (50%) - There will be 2 midterm exams given during the semester.

3. Data Project (10% of grade). Due during the last week of class. ***NO late projects will be accepted.***

4. Final exam (25%) to be held during the final exam period.

Please note that there will be NO make-up exams given during the semester. Absence from an exam will be excused only for a serious illness or bereavement (which must be documented). A student who is unable to take the final exam for a legitimate reason MUST obtain advance authorization from the Office of Undergraduate Academic Affairs. There are NO EXCEPTIONS to these rules.

Special Accommodations: If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please see me immediately. Please keep in mind that reasonable accommodations are not provided retroactively.

Academic Honesty: You are expected to be honest in all of your academic work. Instances of alleged dishonesty will be forwarded to the Office of Campus Life for possible referral to the Student Judicial System. Potential sanctions include failure in the course and suspension from the University. If you have any questions about my expectations, please ask. Academic dishonesty will not be tolerated and will be vigorously prosecuted.

DATES TO REMEMBER

September 1:	Labor Day. No class today.
September 29:	Brandeis Tuesday schedule. Class will NOT meet.
October 1:	Rosh Hashanah. No classes.
October 9:	Yom Kippur. No classes.
November 27, 28:	Thanksgiving Break. No classes.
December 8:	Last day of class.

ASSIGNMENT DUE DATES

TBA

TENTATIVE OUTLINE

Please note: I highly recommend that you do the readings BEFORE lecture.

AUG 28 **THURS** *Introduction.*

SEPT 1 **MON** *No class. Labor Day*

SEPT 3 **WEDS** *Review of probability and statistics.*

SEPT 4 **THURS** *Review of probability and statistics, cont'd.*

SEPT 8 **MON** *Review of probability and statistics, cont'd.*

SEPT 10 **WEDS** *What is econometrics?*

SEPT 11 **THURS** *Introduction to the bivariate model.*

SEPT 15 **MON** *The Ordinary Least Squares (OLS) estimator.*

SEPT 17 **WEDS** *OLS, cont'd.*

SEPT 18 **THURS** *OLS, the maximum likelihood estimator, and the analogy principle*

SEPT 22 **MON** *The Gauss-Markov assumptions.*

SEPT 24 **WEDS** *The Gauss-Markov assumptions, cont'd.*

SEPT 25 **THURS** *Goodness of fit, hypothesis testing in the bivariate model.*

SEPT 29 **MON** *Brandeis Tuesday schedule.*

OCT 1 **WEDS** *Rosh Hashanah. No class.*

OCT 2 **THURS** *Review for Midterm*

OCT 6 **MON** **MIDTERM, IN CLASS**

OCT 8 **WEDS** *Return Midterm*

OCT 9 **THURS** *Yom Kippur. No class.*

OCT 13 **MON** *Omitted variable bias. Introduction to the multivariate model.*

OCT 15 **WEDS** *More on the multivariate model.*

OCT 16	**THURS**	*Goodness of fit, hypothesis testing.*
OCT 20	**MON**	*More on hypothesis testing.*
OCT 22	**WEDS**	*Dummy variable models.*
OCT 23	**THURS**	*Functional forms.*
OCT 27	**MON**	*Multicollinearity.*
OCT 29	**WEDS**	*Violating the Gauss-Markov assumptions.*
OCT 30	**THURS**	*Heteroskedasticity.*
NOV 3	**MON**	*Heteroskedasticity, cont'd.*
NOV 5	**WEDS**	*Review for Midterm*
NOV 6	**THURS**	**MIDTERM, IN CLASS**
NOV 10	**MON**	*Return Midterm*
NOV 12	**WEDS**	*Autocorrelation.*
NOV 13	**THURS**	*Autocorrelation, cont'd.*
NOV 17	**MON**	*How to write an empirical paper.*
NOV 19	**WEDS**	
NOV 20	**THURS**	*Limited dependent variable models.*
NOV 24	**MON**	
NOV 26	**WEDS**	*Time series data.*
NOV 27 - 28	**NO CLASSES. THANKSGIVING BREAK.**	
DEC 1	**MON**	
DEC 3	**WEDS**	*Cross-sectional and panel data.*
DEC 4	**THURS**	
DEC 8	**MON**	*Review for Final.*