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Course Number:	**Econometric Analysis**
Semester:	**Spring, 2011/2012**
Instructor:	**Dr. Mehtap Hisarciklilar**
Credits:	**4 credit hours/ 8 ECTS**
Contact hours:	**24 hours**
Learning hours:	**96 hours**
Class Hours:	**Daily, 17:00-21:00**
Prerequisite:	**Research Methods**

Textbooks:

1. Angrist, D. Joshua and Jörn-Steffen Pischke (2009) *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press.
2. Dougherty, Christopher (2007) *Introduction to Econometrics*, 3rd ed., Oxford University Press.
3. Greene, H. William (2012) *Econometric Analysis*, 7th ed., Prentice Hall.
4. Gujarati, Damodar (2011) *Econometrics by Example*, Palgrave Macmillan.
5. Studenmund, A. H. (2011) *Using Econometrics: A Practical Guide*, 6th ed., Prentice Hall.
6. Wooldridge, M. Jeffrey (2009) *Introductory Econometrics: A Modern Approach*, 4th ed., South-Western.

Additional reading:

1. McCloskey, D. N. and S. T. Ziliak (1996) The standard error of regressions, Journal of Economic Literature, 34(March): 97-114.
2. Additional documents and exercises to the provided.

Course description:

This module builds on Research Methodology, continuing the topics in the area of quantitative techniques. After developing the theoretical constructs of Ordinary Least Squares, common problems encountered when applying this approach, including serial correlation, heteroscedasticity, and multicollinearity are discussed. Techniques for dealing with these problems are then examined. E-views statistical package is utilised throughout the module.

Learning objectives:

- To understand the terminology of econometrics and to be able to use them appropriately
- To build an appropriate econometric model for the economic relationships
- To examine the potential problems related with the econometric model estimation and to take the necessary steps dealing with these problems
- To study the characteristics of time series data and to estimate time series models
- To use a statistical package for econometric modelling

Learning outcomes:

By the end of this course it is expected that the student will be able to:

1. use econometric terms and techniques appropriately;
2. build and estimate econometric models, and interpret the results;
3. make predictions based on an econometric model;
4. build time-series models and interpret the results;
5. demonstrate the necessary skills for undertaking an empirical research individually;
6. use Eviews econometric package correctly

Course delivery:

Class lectures will be supported by hands-on computer sessions aiming to teach the Eviews econometric package and show real life applications for econometric modeling. Lecture slides and handouts for both the lectures and the computer sessions will be distributed to students. Students will be asked to work on some exercises and problems.

Instructor's expectations from students:

- Attend class regularly and take instructors notes which can be used as a guideline.
- Contribute to the interactive classes.
- Prepare and follow your own program for home reading.
- Think critically on the issues presented in the classroom.
- Avoid anti-social behavior in College and anti-academic behavior in the classroom (i.e. plagiarism, cheating, etc.)
- Try to interconnect the material taught on related subjects, i.e. Social and Economic Development, Microeconomics, Macroeconomics, etc.
- Impose a self – discipline regarding Colleges rules and procedures.

Assessment:

A 2000 word project – 100%

Students will be asked to work on a project where each student, using a dataset of their own, will utilise the techniques that are covered within the module. In this project, students are expected to choose and apply the correct econometric approach for their own case, utilise the necessary diagnostic tests, and comment on the results. They will also be asked to write a well-organised report for their project work.

Programme

Day 1: **Introduction**

The Simple Regression Model

- Deriving the Ordinary Least Squares (OLS)
- Properties of OLS
- Unit of Measurement and Functional Form

Multiple Regression Analysis - Estimation

- Estimation of Multiple Regression Analysis
- Interpreting the OLS Regression Results
- Omitted Variable Bias
- Multicollinearity

Study material:

Wooldridge: Chapters 1 & 2 & 3
Dougherty: Chapters: 1 & 3 & 4

Day2:

Multiple Regression Analysis – Inference

- Testing Hypothesis About a Single Population Parameter
- Confidence Intervals
- Testing Multiple Linear Restrictions
- Reporting Regression Results

Multiple Regression Analysis – OLS Asymptotics and Further Issues

- Consistency, Asymptotic Normality and Large Sample Inference
- Asymptotic Efficiency of OLS
- Goodness-of-Fit and Selection of Regressors
- Prediction and Residual Analysis

Study material:
Wooldridge: Chapters 4 & 5 & 6
Dougherty: Chapters: 2 & 6

Day 3:

Multiple Regression Analysis with Qualitative Information

- Using Dummy Variables as Independent Variables
- Interactions Involving Dummy Variables

Heteroscedasticity

- Consequences of Heteroscedasticity for OLS
- Heteroscedasticity-Robust Inference After OLS Estimation
- Testing for Heteroscedasticity
- Weighted Least Squares Estimation

Study material:
Wooldridge: Chapters 7 & 8
Dougherty: Chapters: 5 & 7

Day 4:

Basic Regression Analysis with Time Series Data

- The Nature of Time Series Data
- Examples of Time Series Regression Models
- Finite Sample Properties of OLS under Classical Assumptions
- Functional Form, Trends, Seasonality

Issues in Using OLS with Time Series Data

- Stationary and Weakly Dependent Time Series
- Testing for Unit Roots
- Spurious Regression
- Cointegration
- Fitting Models with Nonstationary Time Series

Serial Correlation and Heteroscedasticity in Time Series Regressions

- Properties of OLS with Serially Correlated Errors
- Testing for Serial Correlation
- Correcting for Serial Correlation
- Heteroscedasticity in Time Series

Study material:
Wooldridge: Chapters 10 & 11 & 12
Dougherty: Chapters: 11 & 12 & 13

Day 5: **Qualitative Dependent Variable Models**

- Linear Probability Model
- Maximum Likelihood Estimation
- Logit and Probit Models
- Sample selection

Specification and Data Issues

- Functional Form Misspecification
- Using Proxy Variables for Unobserved Explanatory Variables
- Missing Data, Nonrandom Samples

Study material:

Wooldridge: Chapters 17 & 9
Dougherty: Chapters: 10 & 8

CPC Coverage in terms of hours

1) Functional area
   A Marketing – 0 hour
   B Business finance – 0 hours
   C Accounting – 0 hours
   D Management – 0 hours
2) The Business environment
   A) Legal environment of Business – 01 hours
   B) Economics – 10 hours
   C) Business ethics – 1 hour
   D) Global dimensions of Business – 0 hours
3) Technical skills
   A) MIS/IT computing – 3 hour
   B) Statistics/Quantitative techniques – 10 hours
4) Integrative areas
   A) Business policy – 0 hours
   B) Internship – 0 hours

Class Conduct:
Late arrivals and mobile phone usage is highly disruptive to your colleagues. Therefore, please note that mobile phones are strictly not tolerated in the class for any use (including computations). The class starts promptly at the scheduled time. Please also refrain from talking during class; it is disruptive to your colleagues and the lecturer. If you have a question about the material, please don't hesitate to ask. Your question might clarify the topic not only for you, but also for the others in the class. Please, consider that the language of instruction is English, so all our conversation into the class must be in this language. After each session students are expected to study all the relevant material, read all the associated exercises, prepare assignment for the next class (if given).

Cheating and plagiarism in any form will result immediately in the grade F.

Grading:
C- or better is required to use a course either as a prerequisite or as a major requirement.
G.P.A. (Grade Point Average): is computed for each student using the quality points earned for each course taken. A G.P.A of at least 2.0 is required for transfer and to graduate from ACS.
I wish you an interesting and creative academic semester.

Academic Honesty

The American College Skopje has its personal integrity, which is presumed to be sufficient assurance in academic matters one's work is performed honestly and without unauthorized assistance. Plagiarism and cheating are serious offences and may be punished by failure on the exam, paper or project; failure in the course; and/or expulsion from the faculty. Individuals are prohibited from selling or being paid for taking notes in any form (written, electronic, or otherwise) during this course to or by any person or commercial firm without the express written permission of the professor teaching this course.

Late Work:

There is NO PROVISION for late work on any assignment (i.e., late work is not accepted). It is strongly recommended you to have backup systems in place so that you can have all work completed on schedule. Having your work completed on schedule is a key to early success in your business career.
Late submissions are not accepted. Partial credit will NOT be given for late work.
Make-up tests are given in exceptional circumstances.

Approved by: Marjan Petreski
Date: 02/2012