

**Department:** Economics and Finance

<b>Course Name:</b>	<b>Econometrics</b>	<b>Course No.:</b>	<b>ECON 625</b>
<b>Prerequisite:</b>	<b>N/A</b>	<b>Credit Hours:</b>	<b>3</b>

### Brief Description:

The aim of this course is to introduce economic concepts and methods of analysis, to enable students to understand and use economic arguments in business decision-making. This course provides students with the tools to use economic principles in decision-making, and an understanding of the broader economic environment in which business decision must be made.

### Course Objectives:

After completion of this course the student will be able to:

- Explain econometrics and describe the econometric methodology
- Explain the steps involved in empirical research or econometric research;
- Describe the simple and multiple classical regression models
- Identify the underlying Stochastic and Non-Stochastic assumptions
- Apply ordinary least square method (simple and multiple regression) and inference procedure
- Discuss the conventional econometrics problems of violation of the above mentioned assumptions
- Apply appropriate methods to remedy the conventional econometric problems;
- Analyze the empirical investigations into accounting and finance issues;
- Estimate the quantitative and qualitative models

### Course Topics:

- Introduction to econometrics
- Simple & multiple linear regression models and assumptions
- Estimation of simple regression model and hypothesis testing
- Estimation of multiple regression model and hypothesis testing
- Relaxing assumptions and diagnostic testing
- Non-normality, consequences and testing for normality
- Multicollinearity, practical consequences and testing
- Heteroskedasticity, consequences, tests and remedies
- Autocorrelation, consequences, tests and remedies
- Simultaneous equation models and estimation
- Model misspecification and tests
- Dynamic models with lagged dependent variables
- Panel data models
- Limited dependent variable models

### Text Book:

- Gujarati, D.N. (2004), "Basic Econometrics", 4th edition, New York, USA: McGraw-Hill.

### Additional References:

- Wooldridge, J.M. (2012), "Introductory Econometrics: A Modern Approach", 5th edition, Mason, USA: CENGAGE Learning Custom Publishing.
- Brooks, C. (2008), "Introductory Econometrics for Finance", 2nd edition, Cambridge, UK: Cambridge University Press.
- G. S. Maddala (1992) Introduction to Econometrics, New York, USA: Macmillan Publishing Company

### Online Resources:

- Research Methods Knowledge Base
- [www.socialresearchmethods.net/kb/](http://www.socialresearchmethods.net/kb/)
- Research Methods Knowledge Base: Design
- [www.socialresearchmethods.net/kb/design.php](http://www.socialresearchmethods.net/kb/design.php)
- Research Methods Knowledge Base: Survey Research
- [www.socialresearchmethods.net/kb/survey.php](http://www.socialresearchmethods.net/kb/survey.php)

### Measurement & Assessment Tools:

Objectives			Obj 1.1 & 1.2	Obj 2.2	Obj 3.1
Assessment tools	Grade	Week (Time period)	1	2	3
Midterm test	25	9 <sup>th</sup>	✖		
Class work	10	12 <sup>th</sup>			✖
Assignments	15	15 <sup>th</sup>		✖	
Final exam	50	As Dated	✖		
Total	100				
<b>Extra credit</b>					
Not Required					

Tentative Course Outline:				
Week	Hours	Topics	Readings	
1	3	Syllabus and introduction to econometrics		
2	3	Simple & multiple regression models and assumptions		
3	3	Simple regression model: estimation and inferences		
4	3	Multiple regression model: estimation		
5	3	Multiple regression model: inference		
6	3	Relaxing OLS assumptions (contd.)		
7	3	Relaxing OLS assumptions		
8	3	Non-normality, practical consequences and tests for normality		
9	3	Heteroskedasticity, consequences, detection and remedies		
10	3	Autocorrelation, consequences, detection and remedies		
11	3	Multicollinearity and consequences		
12	3	Qualitative Variables		
13	3	Penal data regression analysis		
14	3	Simultaneous equation bias and an identification problem		
15	3	Two stage least squares and instrumental variable techniques		
16	3	Revision		

Approved by Dept. Chair:

Date of Approval:

**Extra Information:** (Updated every semester and filled by course instructor)

Course Instructor: Dr \_\_\_\_\_  
Office No: \_\_\_\_\_  
Extension: \_\_\_\_\_  
Email: \_\_\_\_\_  
Office Hours: \_\_\_\_\_