



## Course outline and calendar

**Financial  
Econometrics**

**FN – 715**

### **Dr Hasan Murad School of Management (HSM)**

#### ***Basic information***

Program: MS Finance  
Semester:  
Credit hours: 3  
Course Duration: 15 Sessions

Instructor:  
Email address:

Office hours:

Moodle Page:

#### ***Course description***

The aim of this course is to help students develop a working knowledge of econometrics and its applications to real-world economic data. The course is based on ordinary least squares regression models and will cover topics related to simple and multiple regression methods using cross-sectional data, focusing on issues of estimation and inference. Extensions to the regression model as well as simple time-series and panel data settings will also be considered. There will be an emphasis on how to apply the methods in practice, fostering the ability to conduct empirical research in economics and other social sciences.

#### ***Learning outcomes***

*On completion of the course, students should be able to:*

1. List and explain the assumptions underlying ordinary least squares regression.
2. Interpret the estimates generated by applying regression models.
3. Conduct hypothesis testing using the output of regression models.
4. Describe and explain the limitations of regression models.
5. Identify and apply extensions to the cross-sectional regression model which address special features of alternative data structures.
6. Apply regression modelling to economic data using econometric software.

### ***Learning Activities and Teaching Strategies***

The examinable content of the course is defined by the references given in the lecture schedule, the content of lectures, and the content of the tutorial program.

#### **Lectures (15 lectures)**

The purpose of lectures is to provide a logical structure for the topics that make up the course; to emphasise the important concepts and methods of each topic; and to provide relevant examples to which the concepts and methods are applied.

#### **Tutorials (13 tutorials)**

Tutorials begin in Week 2 and are an integral part of this course. Tutorial presentations, discussions, and solutions to problems are designed to help students deepen their understanding of the material and practice applying it.

#### **Research Papers/Articles**

Every alternate session I'll post the article link on Moodle which you guys are required to read critically before coming to next class and we will do further discussion on methodology and econometric techniques applied in the given paper/article.

#### ***Assessment***

Assessment type	Weight	Description
Three individual assignments	15%	<ul style="list-style-type: none"> <li>● <b>Assignment 1:</b> Theory</li> <li>● <b>Assignment 2:</b> (Theory + STATA result interpretation)</li> <li>● <b>Assignment 3:</b> Model building and STATA result interpretation.</li> </ul>
Class participation	5%	<ul style="list-style-type: none"> <li>i. POP-Quizes</li> <li>ii. Attendance</li> </ul>
Mid-term Exam	15%	<b>Theory and Practical</b> Students are supposed to fit best model on a given data set. Furthermore the interpretation of results are required.
Final Project	40%	Term paper.
Final Exam	25%	Theory and Practical.

**Course material and equipment**

Please help yourself and collect the course pack from university's photocopier.

Titled "**Financial Econometrics**"

**CD-ROM**

The attached *CD-ROM* contains the following:

1. **eBooks**
  - i. Introductory Econometrics for Finance by Chris Brook. (*Core Text*)
  - ii. Econometric analysis by William H. Green.
2. **Econometric packages**
  - i. STATA 12.
  - ii. EVIEWS 8.

**Course load**

Follow the following study and time management suggestions to keep yourself on safe side

Study type	Time
Lectures	Try to attend all lectures. Take notes where needed.
Self study	Give at least 2 hours after every lecture.

**Topics to be discussed**

Lecture	Topic(s) covered	Details
1	Flashback and introduction to Econometrics.	<ol style="list-style-type: none"> <li>i. Types of data</li> <li>ii. Introduction to GUI of econometric packages.</li> </ol>
2	Data handling using econometric software.	<ol style="list-style-type: none"> <li>i. Simple data analysis techniques.</li> <li>ii. Understanding result windows.</li> </ol>

Lecture	Topic(s) covered	Details
3	Introduction to Simple Regression	i. Regression Model. ii. Regression Vs. correlation
4	Simple Regression continued	i. Properties of OLS. ii. Standard Errors.
5	Simple Regression on STATA	i. Understanding result window.
6	Univariate time series	i. Introduction. ii. AR(1) models iii. STATA/Eviews result windows.
7	Univariate time series continued.	i. MA(1) models. ii. ARMA models. iii. STATA/Eviews result windows.
8	Mid-term	
9	Term paper proposal defence	
10	Stationarity and Unit root testing.	i. Introduction. ii. Testing for unit root in STATA. iii. Co-integration. iv. ECM
11	Panel Data models	i. Introduction. ii. Simple panel regression model. iii. STATA Panel data GUI
12	Panel Data models continued	i. Understanding Fixed effects ii. Random effect models
13	STATA commands	

Lecture	Topic(s) covered	Details
14	Revision	

### ***Assignments submission***

Only soft copies (preferably .pdf) with following format will be accepted.

1. Font size 12pt.
2. Font type: New Roman.
3. Line spacing: 1.5

### ***Plagiarism***

The School of Business & Economics is VERY STRICT against any action of plagiarism. All final projects will be checked for plagiarism via “TURN it in”.

**Acceptable limit for similarity index would be 19%**

Projects with more than 19% similarity will not be entertained. (*exceptions allowed!*)

### ***Class rules***

1. Mobile phones should be on silent mode.
2. Late comers will not be allowed.

### ***Group work rules***

1. Pick your own groups. (If you have trouble getting picked, I will help!)
2. All group work will be self policed, except in extreme circumstances.
3. “Free-Riders” will not be entertained in any case.

### ***Term Paper***

A term paper is a research paper written by students over an academic term.

#### ***Term paper Structure***

**Abstract** [100 – 150 words along with key Words]

#### **● Introduction**

- Objectives of the Term Paper
- Hypotheses of the Term Paper
- Novelty of the Term Paper
- Organisation Scheme of the Term Paper

**● Literature Review**

- Review of the Past Studies which may Support the Topic; Model, and Variables of Your Term Paper. Moreover; at least four research papers should be reviewed for the relationship of each Independent Variable with dependant variable.

**● Methodology**

- Data Sources
- *Data range* should not be less than 28 observations.
- Model
- Methodological Framework
- Estimation Procedure

**● Analysis and Results**

- Empirical Findings; Their Justification and Supporting References for the Findings. [Analysis will be made on the basis of the techniques learnt in the course of financial econometrics; Advanced techniques can be used in the term paper for analysis with a permission of instructor.]

**● Discussion and Conclusion**

- Conclusion
- Policy Implication
- Direction for Future Research

**● References** [Should be made on APA Format]

**NOTE:** Before submitting the final draft students are required to attach:

*Originality Report* from “**turn it in**” whose Similarity Index should be 19% or less.

**Important Note:**

**As students are using the Departmental resources in development of their term paper According to Department of Finance policy and**

**regulations, students are not allowed to publish or present their TERM PAPER in any journal or conference respectively.**