**Regression and Econometrics Analysis**

# QM - 622

#### Basic Information

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| --- | --- |
| **Program** | MS Applied Statistics |
| **Semester** |  |
| **Credit Hours** | 3 |
| **Pre requisites (if any)** |  |
| **Resource Person** |  |
| **Contact information** |  |
| **Phone:** |  |

### COURSE DESCRIPTION

#### Introduction

Warm welcome to the spring 2015 Regression and Econometrics Analysis class! This course is concerned with the basic tools that are indispensable for analyzing cross section and time series data in Statistics, Economics, Business, and Applied sciences. It deals with theoretical concepts and empirical applications. It offers students hands-on experience in problem-solving.

#### Unit content

Topics for this course include a revision of basic statistical concepts, an introduction to regression and econometrics, the classical regression model, relaxing the assumptions of the classical linear regression model, model specification, forecasting, basic time series analysis, use of empirical examples to test hypotheses in statistical scenarios and economics experiments, and an introduction to the use of SPSS and Eviews.

#### The goal of the unit

The goal of the unit is to teach students the basic Regression and econometric skills. In particular through undertaking this unit, students gain knowledge and experience in data analysis, economic modelling and interpretation of analytical results. This unit may also lay the foundation for students to obtain more advanced training in econometrics.

####

#### Learning outcomes

On completion of this unit, you should be able to:

* Conduct preliminary analysis of economic and financial data;
* Construct economic models (cross-sectional or time-series);
* Run linear and multiple regressions;
* Perform statistics tests to check the econometric models;
* Interpret regression results;

#### Educational principles and graduate attributes

In this unit, you will be provided with the opportunity to:

* Critically evaluate and solve economic problems;
* Engage in quantitative analysis of economic phenomenon;
* Develop competencies in understanding economic policies through case studies;
* Demonstrate self-management and independent learning skills through the completion of prescribed assignments and weekly tutorial exercises;
* Gain hands-on experience in the computing lab.

In this unit, you will be encouraged and facilitated to develop the ability and desire to:

* Formulate economic policies through empirical modelling;
* Justify the choice of certain model in economic analysis.

### TEACHING AND LEARNING RESPONSIBILITIES

#### Teaching and learning strategies

It is essential that all students attend the lectures and students have the opportunity to be engaged in small group learning such as discussion with other students and exchange with the tutor. A set of questions will be given to the students on Friday before the lecture. Students are encouraged to go through the questions ahead of the tutorial.

#### Learning Methodology

Following instructional tools and methodologies would be used during the course.

**Lectures:** 15 sessions in total. Each of these lectures is accompanied by detailed description of the technique, its use in the form of data analysis, and pertinent examples from the research world.

**Research Papers & Case Studies:** Every alternate session would be accompanied by discussions on Case Studies as well as Research Publications.

**In Class Exercises:** Data analyses would be conducted to appreciate numerical aspects of the techniques.

**Computer Software:** SPSS 16- 22 (Any Version)

#### Recommended Text

Considering the nature and requirement of this course no single book is recommended. However, there are some books available that can cover the course in its minimum requirements. This deficiency may be overcome by using some references besides a recommended book. Following is the recommended text as well as some reference texts for the course:

Gujarati, DN and Porter DC, Basic Econometrics, 5th edition, McGraw-Hill, Australia, 2009.

<https://drive.google.com/drive/u/0/#folders/0B89s8fg1M0NUeFlHNENzeU1oUEE/0B89s8fg1M0NUa2tFOTNBU2trTGc>

**Note:**

* Students may read relevant sections of the book to help understand the weekly lectures.
* Above link providing you at least 15 books on Regression analysis and at least 20 books on Econometrics analysis.
* Statistical Computing texts also available in Google drive.

***Moodle***

Participantsshould regularly visit the course website on MOODLE Course Management system, and fully benefit from its capabilities; moodle.umt.edu.pk

***Classroom Behavior:***

Positive and constructive class participation will be monitored for each class. Particular emphasis will be given during the presentation sessions. The manner in which the question is asked or answered will also be noted. Your behaviour, as business executive will contribute to the class participation marks.

***Participant Responsibilities:***

The learning process is based on independent work with texts, textbook, and cases supported by lectures and assignments/cases - see schedule. Participants are supposed to have read the text chapters under discussion in advance. Questions answered to these text chapters, will contribute to the class participation marks.

***Use of Unfair Means***

Participants are expected to do their own work in their assignments, quizzes and exams. They are always encouraged to discuss with each other but the assignments, quizzes and exams should be their own work reflecting their own effort and intellect. The School of Business & Economics is VERY STRICT against any action of plagiarism, copying and cheating. So don’t put yourself in any embarrassing position that may mar your career. In summary, any or all of these actions may be taken against you in case of cheating.

* Zero Point for the assignment/quiz/exam
* Case would be sent to UMC Committee

***Use of Mobile Phones and Other Electronic Devices***

* Use of mobile phones and similar devices is prohibited during the class
* Your phone should not be heard or visible during the class
* All mobile phones should be turned-off (or at least in the “silent” mode) and secured in pockets or bags during the class time, and may not be used for ANY purpose, including calculations, time-keeping, etc. In case you are anticipating an emergency call, you need to discuss this matter with the resource person BEFORE the start of the class

#### Attendance

Participation in class, whether it is listening to a lecture or getting involved in other activities, is an important part of the learning process. It is therefore important that you attend classes. More formally, the University regulations state that ‘to complete a course students shall attend prescribed classes or lectures.

###

### ASSESSMENT MECHANISM

#### The purpose of assessment

There are a number of reasons for having assessable tasks as part of an academic program. The assessable tasks are designed to encourage you to explore and understand the subject more fully. The fact that we grade your work provides you an indication of how much you have achieved. Providing feedback on your work also serves as part of the learning process.

#### Assessment mechanism summary

**Assignments — 30%**

Every assignment would be a weeklong exercise, which would be available through Moodle and has to be submitted through Moodle.

**Discussion — 15%**

Every class session would have 45 minutes exclusive for such discussion. The class would be splitted in three groups; the presenters, the critiques and the observers.

**Term Paper — 45%**

A term paper is a research paper written by students over an academic term. These are generally intended to describe an event, a concept, or argue a point. A term paper is a written original work discussing a topic in detail, usually several typed pages in length. Typically, a term paper is composed of following sections;

**Introduction** (5%) : This section introduces the topic with respect to its definitions,

existingconcepts and taxonomy. It reasons your attempt on the

 topic.

 **Literature Review** (5%) : It scans the available academic literature on the topic to

 provide theoretical base for the analysis and identify

 research gap, if there exist any. This research gap would help in

 carving objectives and research questions for the study while the

theoretical base steer the analysis.

**Methodology** section consists ofHypotheses Construction: 15%

**Choice of Analysis along with its rationale**: 15%

**Application of the Analysis**: 15%

**Fulfillment of corresponding assumptions, if there exist any**: 15%

**Inferring Conclusion**: 15%

**Discussion over the Results** :(15%); which translates the results obtained in the

 previous section into everyday language.

#### Assessment components

* The assignment papers will be marked by group tutors. The final marks will be adjusted so that all marks are consistent (it is hence important to ensure that your tutor receives your paper)
* Late submissions will not be accepted.

#### Submission of assignments

Submit your assignment in hard copy in the end of the class.  Please remember to attach an Assignment Cover sheet to the front of your assignment. You can download the relevant Assignment Cover sheet from the Business School Current Students web page <http://www.business.uwa.edu.au/students/assessments>.

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