COURSE TITLE: ECONOMETRICS II
COURSE CODE: ECON 3050
LEVEL: III
SEMESTER: II
NO. OF CREDITS: 3
PRE-REQUISITE: ECON 3049

LECTURER INFORMATION
Sonja S. Teelucksingh
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TUTOR INFORMATION
Rachel Cave
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COURSE DESCRIPTION
In this course, students will develop a sound understanding of modern econometric theory. Sound working knowledge of matrix algebra and statistical theory will be assumed; students without the prerequisite skill set should take the initiative to seek additional help via reference to relevant texts. Sound working knowledge of the classical econometric methods covered in ECON3049 will be assumed. Students are also expected to be computer literate and to be familiar with the Econometric package EViews.

COURSE RATIONALE/PURPOSE
The main objective of this course is to provide an introduction to what has become known as “modern” econometric methods. This course embeds the student with the skills required for applied graduate work and for applications in professional life. The course is designed for students who want to make a career in applied Economics immediately after obtaining a first degree, and also for students who wish to pursue a graduate degree in Economics.

Though this course will focus heavily on applying econometric methods in real-world situations, strict emphasis will also be placed on developing a comprehensive understanding of econometric theory. In addition, the course will utilise datasets and examples that are relevant to the Caribbean region. In this way, the course plays a part in ensuring that students graduating from UWI with an Economics degree can fulfill the University’s mandate to produce graduates with skills that are directly relevant and applicable to the specific set of issues faced by national economic decision-makers.

LEARNING OUTCOMES
At the end of this course the students will:
1. Understand the scope and limitations of the “classical” econometric techniques
2. Understand the theory associated with the “modern” methods
3. Be able to apply the “modern” methods in real world settings
COURSE CONTENT

1. Maximum Likelihood Estimation in Linear Regression

2. Testing for Restrictions in the Linear Regression Model
   a. The Likelihood Ratio Test
   b. The Wald Test
   c. The Lagrange Multiplier Test

3. Testing Model Specification
   a. The Ramsey RESET Test for misspecification
   b. The Jarque-Bera Test for normality
   c. The Ljung-Box Test for white noise
   d. The Breusch-Godfrey Test for serial correlation
   e. The Chow Test for structural parameter shifts

4. Unit Roots and Stationarity
   a. The concepts of stationarity and unit roots
   b. Testing for unit roots

5. An Introduction to ARIMA Models
   a. Auto-Correlation Functions
   b. Partial Auto-Correlation Functions
   c. ARIMA models
   d. The Box-Jenkins iterative cycle

6. Vector Autoregressive (VAR) Modeling
   a. Setting up a VAR Model
   b. Evaluation of VAR Models: Impulse Responses and Variance Decompositions
   c. Granger Causality: Definitions and Testing
   d. VARs and Causality

7. Introduction to Cointegration
   a. The Error Correction Mechanism
   b. The Engle-Granger Two-Step Procedure
   c. The Johansen Procedure

TEACHING METHODOLOGY
The course will be delivered by way of lectures and tutorials. Attendance at lectures is strongly advised; attendance at tutorial classes is mandatory. Students will be provided with three (3) contact hours weekly: two (2) for lectures and one (1) for tutorials. In addition, the lecturer will announce weekly office hours during which time students are welcome to come by for assistance.

ASSESSMENT
Assessment will be based on a comprehensive final exam (100%) with no choice. Successful completion of the exam will depend on proper understanding of both the lecture content and the tutorial questions.

ESSENTIAL TEXT
ADDITIONAL INFORMATION

Please also take note in your guidelines to Examinations Booklet (available online) of the following regulation:

General Examination Regulation

19. Any candidate who has been absent from the University for a prolonged period during the teaching of a particular course for any reason other than illness or whose attendance at prescribed lectures, classes, practical classes, tutorials, or clinical instructions has been unsatisfactory or who has failed to submit essays or other exercises set by his/her teachers, may be debarred by the relevant Academic Board, on the recommendation of the relevant Faculty Board, from taking any University examinations. The procedures to be used shall be prescribed in Faculty Regulations.

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