Description: Applied Econometrics

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<th>Subject</th>
<th>Cat-Nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
<th>Campus</th>
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<td>ECO</td>
<td>3001</td>
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<td>1, 2002</td>
<td>EXT</td>
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Academic Group: FOBUS
Academic Org: FOB002
HECS Band: 2
ASCED Code: 091903

STAFFING
Moderator: Dom Pensiero

PRE-REQUISITES
Pre-requisite: STA 2300 and ECO 1000

OTHER-REQUISITES
Recommended Pre-requisite: MGT2101

SYNOPSIS
Econometric techniques are being used in an increasing variety of economic applications as the need for empirically assessing economic relationships is becoming fundamental to economic analysis. Knowledge of the qualitative relationships between economic variables is insufficient when the economist is called upon to support explanatory analysis of economic phenomena, and to make predictions for the values of economic variables. Familiarity with, and a practical mastery of, econometric techniques are essential requirements of the professional economist. In this course, students will learn to apply economic reasoning in the formulation, estimation, interpretation and application of some fundamental econometric modelling techniques. The emphasis in this application will be on exploring empirically economic relationships met throughout other courses of study in this plan, while an awareness of the limitations of econometric techniques will be stressed.

OBJECTIVES
On successful completion of this course students will be able to:

- understand the methodology of econometrics, its applications and limitations.
- understand the assumptions underlying the Classic Linear Regression Model and to distinguish between the methods of Ordinary Least Squares and Maximum Likelihood Estimation in regression analysis.
• apply appropriate software to carry out regression analysis, interpret the results, and undertake appropriate statistical inferencing and forecasting.
• test for model structural stability and functional form, and to undertake log linear analysis and regression through the origin when appropriate.
• be able to identify and correct for problems of multicollinearity, micronumerosity, hetroskedasticity, and autocorrelation, and to understand the reasons for incorporation of dummy variables for both explanatory variables and dependent variables.
• explain the concept and consequences of specification errors in simultaneous equation modelling, set out the necessary order and rank condition for the identification of an equation in a system, and to recognise and apply the method of two stage least squares to appropriate problems.
• examine the application and use of autoregressive and distributed lag models, and to use appropriate software to estimate such models.
• become familiar with the concepts of stationarity and cointegration and to obtain diagnostic information from time series data and interpret this information so as to identify an appropriate ARIMA model of the time series.

TOPICS

<table>
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<th>Description</th>
<th>Weighting (%)</th>
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<tr>
<td>1. Methodology of Econometrics, Statistical revision</td>
<td>5.00</td>
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<tr>
<td>2. Simple Linear Regression Analysis</td>
<td>15.00</td>
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<td>3. Multiple Regression Analysis</td>
<td>35.00</td>
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<tr>
<td>4. Econometric Modelling</td>
<td>30.00</td>
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<tr>
<td>5. Time Series Modelling</td>
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TEXT and MATERIALS required to be PURCHASED or ACCESSED:

Books can be ordered by fax or telephone. For costs and further details use the 'Book Search' facility at http://bookshop.usq.edu.au by entering the author or title of the text.

The above material is obtainable as a shrink package at a substantially lower cost to students.

Students should also obtain a licenced copy of the Econometrics package SHAZAME (see Introductory Booklet for details).


REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Makridakis, S., Wheelwright, S.C., McGee, V.E., 1993 *Forecasting: Methods and Applications 2nd Ed*, John Wiley and Sons USA.

STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>Assessment</td>
<td>30</td>
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<tr>
<td>Directed Study</td>
<td>86</td>
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<td>Private Study</td>
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ASSESSMENT DETAILS

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<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
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<tr>
<td>ASSIGNMENT 1</td>
<td>40.00</td>
<td>40.00</td>
<td>Y</td>
<td>04 Mar 2002 (see note 1)</td>
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<tr>
<td>2 HOUR EXAMINATION</td>
<td>60.00</td>
<td>60.00</td>
<td>Y</td>
<td>END S1 (see note 2)</td>
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NOTES:

1. Further details about the due dates are detailed in the assessment section of the Course Specifications.
2. You will be notified of the official examination date following finalisation of the schedule.

OTHER REQUIREMENTS

1. To be assured of a passing grade (C) in this course, students will be required to obtain 50% in aggregate for the assignment and the examination (‘pass-as-a-whole’). To be assured of a B grade, students will be required to obtain 60% in aggregate for the assignment and the examination. To be assured of an A grade, students will be required to obtain 70% in aggregate for the assignment and the examination. To be assured of an HD grade, students will be required to obtain 80% in aggregate for the assignment and the examination.
The due date of an assignment is the date by which a student must despatch the assignment to the University, and is normally that defined in the relevant course specification. The onus is on the student to provide, if requested, proof of date of despatch.

Students should organise their affairs to ensure that they meet due dates for all assignments. Extensions will be granted only under exceptional extenuating circumstances, normally involving a significant medical condition.

Students may apply for an assignment extension either by application through DEC before the due date or by including application with the submitted assignment after the due date. Such applications should be in writing and include supporting documentary evidence. The authority for granting extensions rests with the relevant Examiner. Extensions of up to ten days will be granted subject to appropriate documentary evidence being submitted with the assignment. For longer extensions, it is imperative that the Examiner be consulted as early as possible.

All assignments despatched after due dates without appropriate extension approvals or after approved extension dates will be penalised up to a maximum of 20% of the assigned mark per work day.

Students must retain a copy of all assignments which must be provided if/when required by the Examiner.

Course weightings of topics should not be interpreted as applying to the number of marks allocated to questions testing those topics in an examination paper.

Students must perform at a commensurate grade level in all pieces of assessment to achieve a particular grade.