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Subject Coordinator:
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JG201
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I. GENERAL INFORMATION

Objective of the Course

The objective of this course is to provide an introduction to the statistical and econometric techniques used in economic analysis and business decision making. This course assumes no previous knowledge of statistical theory, but an understanding of basic mathematics is assumed. The course covers the following topics:

- Descriptive Statistics
- The Theory of Probability
- Probability Distributions
- Sampling Theory and Sampling Distributions
- Point and Interval Estimation
- Hypothesis Testing
- Regression Analysis
- Estimation and Hypothesis Testing in Regression Analysis

The course also aims to provide some basic familiarity with the use of computer spreadsheet software for data analysis and problem solving. The recommended software for this course is Excel 97 for Windows.

Text and Supplementary Readings

The textbook for this course, which contains the essential reading and tutorial exercises is Keller, G. (2005) Statistics for Management & Economics, 7th Edition, Duxbury Press. (NB Previous editions were by Keller and Warwick and the 6th edition, cheap if second-hand, would be adequate). This text is over 800 pages in length, so do not attempt to read it from “cover-to-cover”! Comprehensive lecture notes will be distributed at each lecture.

Web Pages

Course materials, lecture notes and handouts will be made available, in advance, on the subject website which can be accessed through:

http://www.webct.unsw.edu.au

Please bring these materials to the relevant lecture/tutorial. There will be no handouts distributed in the class itself.

Lecturer

The lecturer for this course is:
Associate Professor Anthony (Tony) D Owen
Room 201, John Goodsell Building
Telephone: (02) 9385 3351
Email: a.owen@unsw.edu.au
Lectures

There will be one two-hour lecture each week for six weeks.
Thursday 19.00 – 21.00 MAT 1021

In addition there will be a one hour tutorial class each week (commencing in Week 2):
Thursday 18.00 – 19.00 MAT 1021

Students must attend all lectures and tutorials.

Computer Labs

Faculty Computer Labs are available for use by students in this course, although you may prefer to use your own computer facilities. There will be a computing assignment as part of the course assessment.

Assessment

Computer Assignment
Due in tutorial in Week 7

Mid-course Test (6.10 pm Thursday 11 August)
covering topics of Weeks 1 & 2

Final exam (7.10 pm to 8.40 pm, Thursday 8 September)

Late assignments will not be marked.

Students who miss the mid-course test or the final exam should provide the lecturer-in-charge with a written explanation for their absence within 24 hours of the scheduled time of the test / exam. A supplementary examination will be held in December for students who had a legitimate, documented, explanation for missing the final exam. No further supplementary examinations will be held.

SCHOOL OF ECONOMICS TUTORIAL CONSULTATION ROOM – PIT STOP

From week 4, students will be able to consult tutors on duty in Room G18 of the John Goodsell Building almost all day from Monday to Thursday. This means that instead of having to wait for your tutor’s or lecturer’s consultation hours, you will be able to get help as soon as you run into a problem with your study. The pit stop tutors can also be reached by phone or email.

Economics Pit Stop

Room: JG G18
Phone: 9385 1653
Email: tutcentre@unsw.edu.au
II. LECTURE SCHEDULE
(This is the planned schedule and may be subject to minor adjustment)

Week 1: Course Introduction and Descriptive Statistics
Topics: Course Introduction
Frequency Distributions
Histograms
Measures of location and dispersion
Scatter plots – an introduction to correlation and regression

Week 2: Probability Theory
Topics: Probability Definitions
Axioms of Probability
Compound Events
Probability Trees
Conditional Probability and Bayes’ Theorem

Week 3: Random Variables
Topics: Probability Distributions for Random Variables
Expected Values and Variances of Random Variables
Use of Variance to measure risk
The Binomial Distribution
The Normal Distribution
The Normal Approximation to the Binomial Distribution

Week 4: Sampling Theory and Estimation
Topics: Estimators and their properties
Central limit theorem
Sampling distributions
Point and Interval Estimation
The 't' Distribution

Week 5: Hypothesis Testing
Topics: Testing Hypotheses for means and proportions
Type I and II Errors
The Power of a Test

Week 6: Bivariate Distributions
Topics: The Chi Square Independence Test
Correlation coefficient
Correlation and simple linear regression
Statistical aspects of regression
Prediction
Multiple regression

Week 7: Final Exam

III. TUTORIAL EXERCISES
Students will be provided with a set of “Review Questions” for each lecture, for discussion in the following week’s tutorial class. In addition, selected questions from the text will be suggested for those wishing to study the subject in greater depth.