College of Commerce
Economic and Financial Studies
Economics Department

ECON141 – Introductory Econometrics

First Semester, 2005

UNIT OUTLINE

1. Overview of ECON141

The aim of ECON141 is to acquaint students with econometric techniques frequently used in the analysis of economic, financial and marketing data. A basic level of competence in using these techniques, together with an appreciation of their strengths and limitations, is essential for economists, financial analysts and market researchers.

The unit builds on statistical techniques covered in STAT170 (Introductory Statistics) with emphasis given to applications in economics, finance and marketing. Mathematical proofs and derivations are considered only to the extent necessary to facilitate an understanding of key concepts and the interpretation of results.

During the semester students will be required to use the WINDOWS based computer program ECSTAT, which runs in EXCEL. The use of this computer program is an integral component of tutorial exercises and the assignment. Instruction in the use of the computer program will be given in lectures, tutorials and practicals as required. The computing component of the unit is not examinable in the within-semester class test, the mid-semester examination or end-of-semester examination.

> "Louis Armstrong was an economist. Every note was important, and it counted for something."
>
> –ABC television program on Jazz.
>
> "Education is a business."
>
> –Di Yerbury
> Vice Chancellor
> Macquarie University
>
> "Econometrics is the quantitative arm of economics. It is the closest that economics gets to being a science."
>
> –Roger Tonkin
> Lecturer in Econometrics
> Macquarie University

At the end of the semester, ECON141 students should be better placed to decide which of the above statements is correct.

2. Prerequisites

ECON141 has two prerequisites. Students must have obtained at least a PC (or CQ) in:

(i) STAT170, or STAT171; and
(ii) ECON110, or ECON111, or BBA103

3. ECON141 Web Page

The web page for this unit can be found at: http://online.mq.edu.au/pub/ECON141/ This web address is case sensitive. Students enrolled in ECON141 can log on to the Online Teaching Facility for the unit (i.e. WebCT) from the ECON141 Web Page.

4. Workload

Students are expected to devote AT LEAST nine hours each week to ECON141, including attendance at Lectures, Tutorials and the Computing Practical.

5. Textbook

The prescribed textbook for the unit is:

Gujarati, D.
ESSENTIALS OF ECONOMETRICS (Second edition)
Irwin/McGraw-Hill, 1999

Bound copies of the Lecture Notes used in ECON141 can be purchased from the University Cooperative Bookshop. The Lecture Notes, together with the lectures and text-book references, will provide students with a clear indication of the content and scope of the unit.

Students enrolled in ECON141 are strongly advised to purchase a copy of the textbook and a copy of the Lecture Notes.

6. Recommended Additional Textbooks

The following additional textbooks are highly recommended for all students enrolled in ECON141:

Dougherty, C.
INTRODUCTION TO ECONOMETRICS (Second edition)
Oxford University Press, 2002

Studenmund, A.H.
USING ECONOMETRICS: A PRACTICAL GUIDE (Fourth edition)
Addison-Wesley, 2001

These two books have excellent, non-technical discussions of the material discussed in ECON141. Some of the notation and some of the mathematical conventions used in formulae and equations in Studenmund's book differ from the notation and conventions used in many widely used econometric textbooks and in ECON141. (For that reason, and only for that reason, Studenmund's text book cannot be recommended as a prescribed textbook for ECON141.) There is a strong argument that students should be made aware of the differences in notation and conventions that exist in the econometric literature. The book by Studenmund is intended to serve that purpose, in addition to providing a clear non-technical discussion of concepts and procedures in ECON141.

7. Supplementary Reading

There are a number of introductory books on Economic Statistics, Regression Analysis and Econometrics. Students may find the following books useful:

Bechtold, B., and R. Johnson,
STATISTICS FOR BUSINESS AND ECONOMICS,
PWS-Kent, 1989

Berenson M.L., and D.M. Levine
BASIC BUSINESS STATISTICS, 5th Edition,
Prentice-Hall, 1992

* *Berry, W.D., and S. Feldman*
MULTIPLE REGRESSION IN PRACTICE
Sage Publications, 1985

Croucher J.S., and E. Oliver
STATISTICS: A MODERN INTRODUCTION FOR BUSINESS AND MANAGEMENT,
McGraw-Hill, 1986

* *Dougherty, C.*
INTRODUCTION TO ECONOMETRICS, 2nd edition
Oxford University Press, 2002

* *Halcoussis, D.,*
UNDERSTANDING ECONOMETRICS,
South-Western (Thompson), 2005

* *Eastman B.D.*
INTERPRETING MATHEMATICAL ECONOMICS AND ECONOMETRICS
St Martin's Press, 1984

* *Harrison, S.R., and R.H.U.. Tamaschke*
APPLIED STATISTICAL ANALYSIS
Prentice-Hall, 1984

* *Harrison, S.R., and R.H.U.. Tamaschke*
STATISTICS FOR BUSINESS, ECONOMICS AND MANAGEMENT
Prentice-Hall, 1993

Hebden, J.
STATISTICS FOR ECONOMISTS
Philip Allan, 1981

Hey, J.D.
STATISTICS IN ECONOMICS
Martin Robertson, 1974

* *Hill, C., W. Griffiths and G. Judge*
UNDERGRADUATE ECONOMETRICS
John Wiley & Sons, 1997

Kelejian H.W., and W.E. Oates
INTRODUCTION TO ECONOMETRICS, 2nd Edition
Harper & Row, 1981

* *Kennedy, P.*
A GUIDE TO ECONOMETRICS
Martin Robertson, 1979

Kenkel J.L.
INTRODUCTORY STATISTICS FOR MANAGEMENT & ECONOMICS,
3rd Edition PWS-Kent, 1984

* *Lewis-Beck, M.S.*
APPLIED REGRESSION: AN INTRODUCTION
Sage Publications, 1980

* *Lewis, D.E., D.T. O'Brien and D. Thampapillai*
STATISTICS FOR BUSINESS AND ECONOMICS
Harcourt Brace Jovanovich, 1990.

Mansfield E.
STATISTICS FOR BUSINESS & ECONOMICS, 2nd Edition
Norton, 1983

** *Mirer T.W*
ECONOMIC STATISTICS & ECONOMETRICS,
Macmillan, 1983

Round D.K., and A.J. Arnold
ECONOMIC AND BUSINESS STATISTICS PRACTICAL APPLICATIONS WITH MINITAB AND SAS,
Harper & Row, 1988

* *Schroeder, L.D., D.L. Sjoquist and P.E. Stephan*
UNDERSTANDING REGRESSION ANALYSIS: AN INTRODUCTORY GUIDE,
Sage Publications, 1986

Selvanathan A., Selvanathan S., Keller G., Warrack B., and H. Bartel
AUSTRALIAN BUSINESS STATISTICS
Thomas Nelson Australia, 1994

Thomas J.J.
AN INTRODUCTION TO STATISTICAL ANALYSIS FOR ECONOMISTS
Weidenfeld and Nicolson, 1983

** *Thomas, R.L.*
MODERN ECONOMETRICS: AN INTRODUCTION
Addison-Wesley, 1997.

Webster, A.
APPLIED STATISTICS FOR BUSINESS AND ECONOMICS
Irwin, 1992

Wonnacott T.H., and Wonnacott R.J.
INTRODUCTORY STATISTICS FOR BUSINESS AND ECONOMICS, 4th edition, Wiley, 1990

* Very good non-technical references
** Very good technical references

8. Learning Outcomes

All academic programs at Macquarie University seek to assist students develop generic skills in a range of areas. One of the aims of ECON141 is to assist students develop skills in numeracy, information technology, critical analysis and problem solving.

9. Teaching, Learning and Assessment Strategy

The purpose of the final examination for ECON141 is to assess each student's understanding of the concepts and procedures discussed in lectures and tutorials.

A major aim of the within-semester assessment in ECON141 is to encourage and develop in students the capacity for self-motivated and self-directed learning.

10. Class Arrangements

Students enrolled in ECON141 are required to attend thirty-six hours of lectures (i.e. three hours each week except Week 5), nine one-hour tutorial classes, and one one-hour computing practical.

Non-attendance at lectures, tutorials, and the computing practical, is the surest way to guarantee failure.

Lectures:	Evening Stream	Monday 6 - 9 pm, Mason Theatre
	Day Stream	Tuesday 1 - 4 pm, E7B T3
Tutorial Classes	:	Weeks 3, 6, 7, 8, 9, 10, 11, 12 and 13
Computing Practical	:	Week 4

Due to the Easter Monday public holiday on the 28th March there are no lectures or tutorials for ECON141 in Week 5.

Lectures, tutorials and computing practicals commence at 5 minutes past the hour and end at 5 minutes to the hour.

Week	Date	Tutorial Exercise	Tutorial Class	Computing Exercises	Computing Practical
1	Feb 28–March 4	*			
2	March 7 – 11	*			
3	March 14 – 18	*	*		
4	March 21 – 24	*		*	*
5	March 29 – April 1	No Lectures or Tutorials in Week 5			
6	April 4 – 8	*	*		
7	April 11– 15	*	*	*	
April 18 – 29 Mid-Semester Recess					
8	May 2 – 6	*	*	*	
9	May 9 – 13	*	*	*	
10	May 16 – 20	*	*	*	
11	May 23 – 27	*	*	*	
12	May 30 – June 3	*	*	*	
13	June 6 – June 10	*	*	*	

March 25:	Easter Friday public holiday (Week 4)
March 28:	Easter Monday public holiday (Week 5)
April 25:	Anzac Day public holiday (Recess)
June 13:	Queen's Birthday public holiday (Exam Period)

11. Tutorial/Computing Exercises

The tutorial program commences in Week 1. Students are required to attempt **tutorial and/or computing exercises** each week from Week 1 to Week 13 (inclusive). From Week 6 the tutorial exercises are based on computing exercises which must be completed before the tutorial exercise can be attempted.

Formal **tutorial classes** commence in Week 3, followed by a Computing Practical in Week 4. Computing Practicals replace tutorial classes in Week 4 only. Computing Practical groups are exactly the same as the Tutorial Groups. Locations for the Computing Practicals will be advised in lectures, on the Notice Board outside the EFS Resource and Information Centre (ERIC), C5C242-C5C244 , and on the ECON141 Web Page. After Week 4, formal classes continue in Weeks 6, 7, 8, 9, 10, 11, 12 and 13.

There are no tutorial classes or computing practicals in Weeks 1, 2 or 5.

Although there are no tutorial classes in Weeks 1 and 2 students should note that tutorial exercises have been set for each of the first two weeks. These exercises revise essential aspects of the statistical pre-requisite material for the unit. They are an important part of the tutorial program and should not be neglected simply because there are no formal tutorial classes in those weeks. Students are expected to be able to complete the tutorial exercises set for Weeks 1 and 2 without assistance from staff. The solutions for these exercises will be placed in ERIC, on e-Reserve in the library, and on the Web. Students may discuss any issues or difficulties arising from these exercises with staff during staff consultation hours.

Students should attempt as many exercises as possible before the tutorial sessions so that they may more effectively benefit from the discussion. It is important that students be in a position when they attend tutorials to indicate which aspects of the exercises should be given priority.

Students are strongly advised to attend tutorials. The best advice that can be given to an ECON141 student is to attend lectures and tutorials, and to attempt the tutorial exercises **before** attending tutorials and **before** looking at the solutions.

Detailed tutorial solutions will be available in ERIC, on the ECON141 Web Site, and on e-Reserve, after the relevant tutorials have been held.

12. Assessment

NOTE: It is the policy of the Economics Department that students enrolled in a unit offered by the Economics Department must pass the final examination to pass the unit.

There are three types of assessment in ECON141: an **optional** within-semester self-assessment component, an **optional** within-semester objective component, and a **compulsory** end-of-semester objective examination.

The optional within-semester self-assessment component consists of a series of revision exercises which students may work through in their own time, and which students mark themselves. Detailed Solutions for these revision exercises will be available in ERIC, on e-Reserve in the Library, and on the Web. The purpose of these revision exercises is to enable students to judge for themselves how well they understand the lecture and tutorial material.

The optional with-semester objective component consists of:

(a) an optional Take-Home Test of Revision material
(b) an optional Mid-Semester Assignment
(c) an optional Mid-Semester Take-Home Examination

These three aspects of the assessment are entirely optional in the sense that students decide for themselves whether they submit the Test, submit the Assignment, submit the Mid-Semester Examination, or none of these. If students elect to submit the Test, submit the Assignment or submit the Mid-Semester Examination, their work will be marked objectively and returned.

The purpose of these three optional aspects of the within semester assessment is to enable students to obtain an objective measure of how well they have understood the material covered in the first half of the lecture and tutorial program.

The final component of the assessment is compulsory. It is the End-of-Semester Examination. All students enrolled in ECON141 are required to attend the End-of-Semester Examination. The purpose of the End-of-Semester Examination is to objectively determine the grade for each student enrolled in ECON141.

NOTE: Grades in ECON141 (S1, 2005) will be based entirely on the End-of-Semester Examination. i.e. The weight of the End-of-Semester Examination in the grade for ECON141 is 100%.

Students who do not attend the End-of-Semester ECON141 Examination will be given a grade of FA for the unit.

13. Optional Take Home Test of Revision material

This Test will be distributed to students in the lectures in Week 4. The submission deadline for this Test is 6:00 p.m. on Tuesday 29th March.

14. Optional Mid-Semester Assignment

The Assignment will be distributed to students in the lectures in Week 7. The deadline for submission of the Assignment is 6:00 p.m. on Tuesday 3rd May. The Assignment must be placed in the ECON141 box in ERIC. After-hours submissions may be placed in the ERIC after-hours box. Do **not** submit assignments directly to the lecturer or to tutors. Do **not** submit assignments under the lecturer's door or a tutor's door. Even if your assignment is late it must be submitted in the ECON141 box in ERIC, or in ERIC's after-hours box.

15. Optional Take Home Mid-Semester Examination

The Mid-Semester Examination will be distributed to students in the lectures in Week 8. The submission deadline for the Mid-Semester Examination is 6:00 p.m. on Tuesday 10th May.

16. Supplementary Assessment

Students who are prevented by circumstances beyond their control from attending the End-of-Semester Examination, or whose performance in the examination is affected by circumstances beyond their control, may submit a request for special consideration (see below) to be allowed to sit for a Supplementary End-of-Semester Examination, or to have these circumstances taken into account in determining the student's grade. **Note**: Minor illnesses are **NOT** sufficient grounds for being granted special consideration.

Students will not be able to request special consideration for the optional within-semester components of assessment. That is, students will not be able to request permission to submit a Supplementary or Deferred Test, a Supplementary or Deferred Assignment, or a Supplementary or Deferred Mid-Semester Examination.

17. Format of the End-of-Semester Examination

The End-of Semester Examination will have two sections: a multiple choice section, worth 40 marks, and a written-answer section, worth 60 marks.

The examinable content for the End-of-Semester examination consists of all the material discussed in lectures and tutorials from Weeks 1 – 13 (inclusive) except those tasks directly related to obtaining ECSTAT computing output. ECSTAT computing procedures are not examinable. However, students are required to be able to identify, summarise and discuss ECSTAT computer output.

18. Formulae Sheet

A formulae sheet will be provided to students in the End-of-Semester Examination. A copy of the formulae sheet will available on the ECON141 Web site for inspection by students two weeks prior to the examination, and discussed in the final Exam Briefing lecture in Week 13.

19. Calculators

Some numerical calculations will be required in the examinations. A basic calculator is all that will be required to carry out these calculations. Students will be permitted to take **non-programmable calculators only** into ECON141 examinations.

20. Additional Practice Exercises on the Web

Additional Supplementary and Revision practice exercises, accessible via the Web, will be provided. Details of these exercises will be provided in a separate handout. Detailed solutions will also be accessible via the Web.

21. Online Quizzes

A set of interactive online quizzes will be available via the Web. Details of these quizzes will be provided in a separate handout.

22. University Policy on Examination Attendance

Students are expected to attend the End-of-Semester examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations. The Draft and Final examination timetable will be available at: http://www.timetables.mq.edu.au/exam

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances a student may apply for Special Consideration. Information about unavoidable disruption and the Special Consideration process is available at:
http://www.reg.mq.edu.au/Forms/APSCon.pdf

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of the official examination period. Supplementary examinations conducted by the Division of Economic and Financial Studies for first semester units are normally scheduled during the period between the release of the examination grades and the start of the second semester.

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester; that is, until the final day of the official examination period.

23. Special Consideration

The rules and procedures governing Special Consideration are set out on page 41 of the Macquarie University *2005 Handbook of Undergraduate Studies*. It is the responsibility of all students enrolled in ECON141 to ensure that they have read and understand the rules and procedures governing Special Consideration.

24. Appeals by Students Against Grades

The rules and procedures governing Appeals by Students Against Grades are set out on pages 41-42 of the Macquarie University 2005 *Handbook of Undergraduate Studies*. It is the responsibility of all students enrolled in ECON141 to ensure that they have read and understand the rules and procedures governing Appeals by Students Against Grades.

25. Lecture Program

A full list of the lecture topics for ECON141 is provided on the next page.

Week 1	Introduction, Topics 1 & 2
Week 2	Topics 3, 4 & 5
Week 3	Topic 6
Week 4	Topics 7 & 9
Week 5	(No lectures due to the Easter Monday Public Holiday)
Week 6	Topics 11 & 12
Week 7	Topics 13, 14 &15
Week 8	Topics 16, 17 & 18
Week 9	Topics 19, 20 & 21
Week 10	Topics 22 & 23
Week 11	Topics 24 & 25
Week 12	Topic 26
Week 13	Exam Briefing

Topic 8 is dealt with in the Computing Practical in Week 4.
Aspects of Topic 10 are discussed in the relevant lectures in Weeks 6 to 13.

There are no lectures or tutorials for ECON141 in Week 5 due to the Easter Monday public holiday.

26. Prerequisite Revision Topics

Measures of Central Location in Populations and Samples
Measures of Variability in Populations and Samples
Summation Notation
The Relative Frequency definition of Probability
The Normal Distribution
The t-distribution
Sampling Distributions
Basic procedures in statistical inference
Properties of Estimators: Unbiasedness and Efficiency

27. Lecture Topics

TOPIC 1	Basic Statistical Concepts
TOPIC 2	Confidence Interval Estimation
TOPIC 3	Hypothesis Testing
TOPIC 4	Mathematical Expectation
TOPIC 5	Desirable Properties of Estimators
TOPIC 6	Two-Variable Regression Analysis
	The Model and Assumptions
	Estimation of the Two Variable Regression Model
TOPIC 7	Statistical Inference and Prediction in Regression Analysis
TOPIC 8	Computing in ECON141 - ECSTAT
TOPIC 9	An example of Regression Analysis using ECSTAT
TOPIC 10	Additional Computing Procedures
TOPIC 11	Non-Linearities in Regression Models
TOPIC 12	An example of Non-Linearity using ECSTAT
TOPIC 13	Correlation and Regression
TOPIC 14	ANOVA in the Two-Variable Regression Model
TOPIC 15	Multiple Regression Analysis
	The Model and Assumptions
	Estimation and Statistical Inference
TOPIC 16	Structural Change in Regression Models
	Dummy Variables in Regression Models
	Polynomial Regression Models
TOPIC 17	Examples of Multiple Regression using ECSTAT
TOPIC 18	ANOVA in Multiple Regression Models
TOPIC 19	Heteroscedasticity
TOPIC 20	Autocorrelation
TOPIC 21	The Durbin Watson Test
TOPIC 22	Examples of Autocorrelation using ECSTAT
TOPIC 23	Multicollinearity
TOPIC 24	Specification Error
TOPIC 25	Examples of Specification Error using ECSTAT
TOPIC 26	Seasonality in Regression Analysis

References for these topics are provided in an Appendix.

28. Lecturer

Roger Tonkin C5C-381 Ph: 9850-8494
email: rtonkin@efs.mq.edu.au

29. Tutor-In-Charge and Web-Master

Baiding Hu C5C-382 Ph: 9850-8495
email: bhu@efs.mq.edu.au

30. Other Staff

A list of room numbers, University phone numbers and email addresses for other full-time staff teaching in ECON141 will be provided to students as soon as the teaching arrangements have been finalised.

Students are encouraged to consult the teaching staff of ECON141 on all matters relating to the unit, particularly issues or difficulties arising from the lecture and tutorial content, during staff consultation hours. Details of consultation hours will be displayed on the office doors of all ECON141 staff and on the ECON141 Web Site

31. After-hours Consultation

Part-time and evening students may contact the Lecturer-in-Charge, Roger Tonkin, to arrange a suitable time for an appointment outside specified consultation hours, particularly after 5 pm if consultation during normal office hours is not possible because of employment, etc.

Roger Tonkin
Lecturer in Charge
Email: rtonkin@efs.mq.edu.au
February 2005

APPENDICES

(1) Greek Alphabet

(2) References

(3) Standardised Numerical Grades (SNGs)

(4) Plagiarism

(5) Student Support Services

(6) Nine Key Strategies for Surviving and Passing ECON141

APPENDIX (1) : GREEK ALPHABET

Listed below are the upper and lower case letters of the Greek alphabet and their names. Greek symbols are used extensively in the discussion of econometric methods.

Large character	*Small Character*	*Name*	*Large character*	*Small Character*	*Name*
A	α	Alpha	N	ν	Nu
B	β	Beta	Ξ	ξ	Xi
Γ	γ	Gamma	O	o	Omicron
Δ	δ	Delta	Π	π	Pi
E	ε	Epsilon	P	ρ	Rho
Z	ξ	Zeta	Σ	σ	Sigma
H	η	Eta	T	τ	Tau
Θ	θ	Theta	Y	υ	Upsilon
I	ι	Iota	Φ	ϕ	Phi
K	κ	Kappa	X	χ	Chi
Λ	λ	Lambda	Ψ	ψ	Psi
M	μ	Mu	Ω	ω	Omega

APPENDIX (2) : REFERENCES

A detailed list of references for ECON141 is given in the tables on the next two pages. The two sources for these references are the current textbook, written by Gujarati, and a previous textbook, written by Harrison and Tamaschke:

Gujarati, D.
ESSENTIALS OF ECONOMETRICS
Second Edition
Irwin/McGraw-Hill, 1999

Harrison, S.R. and Tamaschke R. H. V.
STATISTICS FOR BUSINESS, ECONOMICS AND MANAGEMENT
Prentice-Hall, 1993

Topics	Reference in Gujarati	Reference in Harrison & Tamaschke
The role of Econometrics in Economic Analysis	**Chapter 1**	
Basic Statistical Concepts: A Review		
1. Random Variables	**2.3**	**2.1, 2.2, 2.4**
2. Probability density function	**2.5**	
3. Rules of Summation	**2.1**	**3.1, 3.2**
4. Mean of a random variable	**2.7**	
5. Variance of a random variable	**2.7**	**4.1, 4.2, 4.3**
6. Standard deviation of a random variable	**2.7**	
7. Populations and samples	**2.8**	**5.2, 5.3, 5.4.4**
8. Normal distribution	**3.1**	
9. t-distribution (using t tables)	**3.4**	**6.1, 6.2, 6.3**
Statistical Inference		
1. Statistical Inference	**4.5**	**7.3.1, 7.3.3**
2. Estimation of Parameters: Point vs. Interval	**4.5**	**7.4.1-7.4.3**
3. Hypothesis Testing	**4.5**	
4. Properties of Point Estimators	**4.4**	**8.1-8.5**
The Two -Variable Regression Model		
1. Purpose	**5.1**	**9.2, 9.3, 9.4**
2. Assumptions		**9.5, 9.7.1**
3. The error term	**5.4**	
4. Population and sample regression	**5.5**	
5. Least squares estimates	**5.8**	
6. Interpretation of the coefficients	**5.8**	
7. Elasticities	**8.1**	
8. Prediction	**6.11**	
Properties of Least Squares Estimators		
1. Mean and variance of the LS estimators	**6.3**	**9.6.1**
2. Gauss Markov Theorem	**6.3**	**9.6.2**
3. Probability distribution of the LS estimators	**6.4**	
Inference in the Simple Linear Regression Model		
1. Confidence intervals for the coefficients of the regression model	**6.5**	**9.6.3** **9.7.3**
2. Hypothesis testing	**6.5**	
3. Prediction intervals	**6.11**	
Analysis of Variance and Coefficient of Determination in the Two -Variable Model		
1. Analysis of Variance	**6.6**	**9.6.4**
2. Coefficient of determination	**6.6**	**9.8**
3. Sample correlation coefficient	**6.6**	**9.9**
4. Comparing correlation and regression analysis	**6.6**	
5. Reporting regression results	**6.7**	

Topics	Reference in Gujarati	Reference in Harrison & Tamaschke
Functional Forms of Regression Models		**10.5**
1. Introduction to Functional Forms	**8**	
2. Log-Linear (log-log or double log) Models Measuring Elasticity	**8.1**	
3. Linear vs. Log-Linear Models	**8.2**	
The Multiple Regression Model		
1. Assumptions	**7.1, 7.2**	**10.1, 10.2**
2. Interpretation of the coefficients	**7.2**	
3. LS estimation	**7.3**	
4. Probability distribution of the LS estimators	**7.3**	
5. Interval estimation	**7.7**	
Hypothesis Testing in the Multiple Regression Model		
1. Student t-tests	**7.6, 7.7**	**10.3**
2. Goodness-of-Fit	**7.5**	**10.5**
3. F-Tests	**7.8**	
4. ANOVA Table	**7.8**	
5. Non linear functional forms: log-log and polynomial models	**8.1, 8.2, 8.3, 8.7**	
6. Prediction		
Multicollinearity		
1. The nature of multicollinearity		
2. Effects of multicollinearity	**10.1, 10.2**	**10.6**
3. Identifying multicollinearity	**10.3, 10.4**	
4. Mitigating multicollinearity	**10.5**	
Dummy Variables	**10.8**	
1. Intercept Dummy Variables		
2. Slope Dummy Variables	**9.1, 9.2**	**10.4**
3. Different Intercepts & Slopes	**9.2**	
4. Testing for the existence of a qualitive effect.	**9.2**	
5. Testing for a structural break	**9.2**	
6. Seasonal Dummy variables	**9.6, 9.7**	
Heteroscedasticity		
1. The nature of heteroscedasticity	**11.1**	**10.7.2**
2. The consequences of heteroscedasticity	**11.2**	
3. Detecting heteroscedasticity	**11.3**	
Autocorrelation		
1. The nature of autocorrelation	**12.1**	**10.7.1**
2. The consequences of autocorrelation	**12.2**	
3. Detecting autocorrelation: Durbin Watson test	**12.3**	
Model Specification		
1. Formulating a Model	**13.1**	
2. Attributes of a Good Model	**13.1**	
3. Types of Specification Errors	**13.2**	
4. Detecting Specification Errors	**13.3**	

APPENDIX (3) : STANDARDISED NUMERICAL GRADES

The Academic Senate has a set of guidelines on the distribution of grades across the range from fail to high distinction. Your final result will include one of these grades plus a standardised numerical grade (SNG).

On occasion your raw mark for a unit (i.e. the total of your marks for each assessment item) may not be the same as the SNG which you receive. Under the senate guidelines, results may be scaled to ensure that there is a degree of comparability across the university, so that units with the same past performances of their students should receive similar results.

It is important that you realize that the policy does not require that a minimum of students be failed in any unit. In fact it does something like the opposite, in requiring examiners to explain their actions if more than 20% of students fail in a unit.

The process of scaling does not change the order of marks among students. A student who receives a higher raw mark than another will also receive a higher final scaled mark.

For an explanation of the policy see
http://www.mq.edu.au/senate/MQUonly/Issues/Guidelines2003.doc or
http://www.mq.edu.au/senate/MQUonly/Issues/detailguidelines.doc.

APPENDIX (4) : PLAGIARISM

The University defines plagiarism in its rules: 'Plagiarism involves using the work of another person and presenting it as one's own." Plagiarism is a serious breach of the University's rules and carries significant penalties. You must read the University's practices and procedures on plagiarism. These can be found in the Macquarie University *2005 Handbook of Undergraduate Studies* (pages 44-45) or on the web at: http://www.student.mq.edu.au/plagarism/

The policies and procedures explain what plagiarism is, how to avoid it, the procedures that will be taken in cases of suspected plagiarism, and the penalties if you are found guilty. Penalties may include a deduction of marks, failure in the unit, and/or referral to the University Discipline Committee.

APPENDIX (5) : STUDENT SUPPORT SERVICES

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at http://www.student.mq.edu.au.

APPENDIX (6):

NINE KEY STRATEGIES FOR SURVIVING ECON141 …. AND PASSING

1. Attend as many lectures as possible.

2. Attend as many tutorials as possible.

3. Attempt the tutorial exercises before the relevant tutorial.

4. If you miss a tutorial, make sure you attempt the exercises before you inspect the answers in ERIC, on e-Reserve, or on the web.

5. Attempt as many additional exercises and practical exercises or until you feel you have mastered the techniques contained in thoses exercises.

6. Attempt the additional exercises and practical exercises before you inspect the answers in ERIC, on e-Reserve, or on the web.

7. If you don't understand the material in the tutorials, additional exercises and practical exercises, consult the ECON141 staff as soon as possible. Don't wait till later in the semester.

8. Keep up to date with the work. Don't fall into the trap of thinking you will be able to do all the work later.

9. Attempt the Optional Within-Semester Assessment.