



ECON6034

Econometrics and Business Statistics

Session 1, In person-scheduled-weekday, North Ryde 2025

Department of Economics

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General Information

Unit convenor and teaching staff

Shuping Shi

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Credit points

10

Prerequisites

Corequisites

Co-badged status

Unit description

This unit is designed to bring students with no econometrics background to an intermediate level in econometrics. Starting from first principles, the unit outlines standard econometric methods to the extent necessary for students to understand key concepts, apply basic methods, and interpret empirical research results in economics, finance and business. The unit material also includes elementary discussions of violations of the standard assumptions for a regression model, such as autocorrelation and heteroscedasticity.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: Apply basic statistical techniques to different economic and business problems.

ULO2: Evaluate and use appropriate econometric tools to model, estimate and forecast economic data.

ULO3: Apply research skills to select, compare and utilise econometric models.

ULO4: Utilise appropriate practices to work effectively in a group.

General Assessment Information

Late Assessment Submission Penalty: Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written

assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical concern. For any late submissions of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to apply for Special Consideration.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Group assignment</u>	30%	No	28/05/2025
<u>Class Test 1</u>	15%	No	Week 6
<u>Class Test 2</u>	20%	No	Week 10
<u>Final Examination</u>	35%	No	University Examination Week

Group assignment

Assessment Type ¹: Quantitative analysis task

Indicative Time on Task ²: 15 hours

Due: **28/05/2025**

Weighting: **30%**

The assignment will require students to critically analyse some sets of data using the econometric software and regression models (including time-series and cross-sectional data). The group will estimate a variety of different models, compare and contrast the outcomes, and assess the suitability of the models for the analysis.

On successful completion you will be able to:

- Apply basic statistical techniques to different economic and business problems.
- Evaluate and use appropriate econometric tools to model, estimate and forecast economic data.
- Apply research skills to select, compare and utilise econometric models.
- Utilise appropriate practices to work effectively in a group.

Class Test 1

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 7.5 hours

Due: **Week 6**

Weighting: **15%**

A 75 minute test consisting of multiple-choice and short-answer questions will be held during the lecture in week 6.

On successful completion you will be able to:

- Apply basic statistical techniques to different economic and business problems.
- Evaluate and use appropriate econometric tools to model, estimate and forecast economic data.

Class Test 2

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Week 10**

Weighting: **20%**

A 75 minute test consisting of multiple-choice and short-answer questions will be held during the lecture in week 10.

On successful completion you will be able to:

- Apply basic statistical techniques to different economic and business problems.
- Evaluate and use appropriate econometric tools to model, estimate and forecast economic data.

Final Examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 17.50 hours

Due: **University Examination Week**

Weighting: **35%**

A two-hour examination will be held during the University Examination Period, and will consist of multiple-choice and short-answer questions.

On successful completion you will be able to:

- Apply basic statistical techniques to different economic and business problems.

- Evaluate and use appropriate econometric tools to model, estimate and forecast economic data.
 - Apply research skills to select, compare and utilise econometric models.
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¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

DELIVERY FORMAT

This unit combines tutorials and lectures. Each week, there will be a one-hour face-to-face and recorded lecture. Starting from week 2, weekly one-hour tutorials will be held to review assigned problems.

The lectures are designed to introduce fundamental concepts in probability, statistics, and econometrics, as well as to explain the methods used to analyze and interpret data. Students are expected to read the relevant material before each lecture.

Tutorials focus primarily on numerical problems, allowing students to practice and understand the methods taught in the lectures. The tutorials also include empirical applications that require the use of Gretl/Excel.

RECOMMENDED TEXT (Useful but not required texts include)

Keller, Gerald (2014) statistics for Management and Economics (10 ed), Cengage Learning

Hill, C. H., Griffiths, W. E. and Lim, G. C. (2011) Principles of Econometrics (4th ed.) Wiley -- Available online through our library:

<http://ebookcentral.proquest.com/simsrad.net.ocs.mq.edu.au/lib/MQU/detail.action?docID=4806586>

Gujarati, N. G. and Porter, D. C. (2009) Essentials of Econometrics, 4th Edition, McGraw-Hill

Stock, J. H. and Watson, M. W. (2014) Introduction to Econometrics, 3rd Edition, Pearson

Wooldridge, Introductory Econometrics: A Modern Approach (7th ed)

TECHNOLOGY NEEDS

1. Gretl (<http://gretl.sourceforge.net/>) The software may be freely downloaded. The Microsoft Windows version is available at <http://gretl.sourceforge.net/win32/>, and the Mac version is available at <http://gretl.sourceforge.net/osx.html>.

2. Microsoft Excel You can find more information on the following link how to use MS Excel off campus. <https://wiki.mq.edu.au/display/microsoftstu/About;jsessionid=E26834FF0E276C3384E93466EE687514>

EMAIL USE

It is University policy that the University issued email account will be used for official University communication. All students are required to access their University account frequently. Only contact Macquarie University staff (including tutors), using your official MQ student's account because this is one method used to verify your identity.

Unit Schedule

The list below is a proposed study plan, but this may be modified as we progress through the semester to allow us to take more or less time with different sections of the course as required.

Unit Schedule

Week 1: Introduction & Descriptive statistics

Week 2: Descriptive Statistics

Week 3: Probability & Random variables

Week 4: Probability Distributions

Week 5: Sampling Distributions

Week 6: Class Test

Week 7: Hypothesis Testing

Mid-session break

Week 8: Regression Analysis

Week 9: Multiple Linear Regression

Week 10: Class test 2

Week 11: Multiple Linear Regression

Week 12: Regression Diagnostics

Week 13: Review

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)

- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies](https://students.mq.edu.au/support/study/policies) (<https://students.mq.edu.au/support/study/policies>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central](https://policies.mq.edu.au) (<https://policies.mq.edu.au>) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit connect.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

The Writing Centre

[The Writing Centre](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Workshops](#)
- [Chat with a WriteWISE peer writing leader](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Unit information based on version 2025.04 of the [Handbook](#)