



# ECON361

## Economic and Business Forecasting

S1 Day 2019

*Dept of Economics*

### Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	2
<u>Assessment Tasks</u>	3
<u>Delivery and Resources</u>	5
<u>Unit Schedule</u>	6
<u>Policies and Procedures</u>	7
<u>Graduate Capabilities</u>	8

#### **Disclaimer**

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

## General Information

Unit convenor and teaching staff

Unit Convenor

Roselyne Joyeux

[roselyne.joyeux@mq.edu.au](mailto:roselyne.joyeux@mq.edu.au)

Contact via [roselyne.joyeux@mq.edu.au](mailto:roselyne.joyeux@mq.edu.au)

E4A-440

TBA via iLearn

Amarjeet Kuar

[amarjeet.kuar@mq.edu.au](mailto:amarjeet.kuar@mq.edu.au)

Credit points

3

Prerequisites

27cp at 100 level or above including (6cp at 200 level including (ECON241 or STAT272))

Corequisites

Co-badged status

Unit description

This unit provides an introduction to quantitative economic forecasting. The broad topics covered include exponential smoothing, ARIMA and vector autoregression. The emphasis of the unit is on the practical aspects of forecasting. Theory is developed only to the point necessary to understand the forecasting procedures introduced in the unit. Students are given regular forecasting exercises throughout the unit. Practical work is carried out using an econometric software package. The objective of the unit is to produce graduates who understand the nature of forecasting problems and can produce sound forecasts for use in business and economic analysis.

## 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:

Estimate measures of forecast accuracy and rank forecasting models.

Seasonally adjust and detrend data,

Implement Smoothing, ARIMA and VAR models to produce forecasts.

Basic literacy in Eviews.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Tutorials</u>	10%	No	Weeks 2-12 in tutorials
<u>Assignment</u>	30%	No	7am on Monday in Week 12
<u>Test 1</u>	20%	No	Week 7
<u>Test 2</u>	40%	No	Week 13

### Tutorials

Due: **Weeks 2-12 in tutorials**

Weighting: **10%**

Participation

The tutorials are an important component of ECON361. Tutorials will start in week 2 and finish in week 12. The tutorial questions will be available on iLearn the week before the tutorial. Solutions will be published during the week following each tutorial. Since we need to provide each enrolled student with a working computer, students are only permitted to attend the class in which they are registered.

If you miss more than 3 tutorials due to an unavoidable disruption, you should apply for Special Consideration (see the Special Consideration Policy below).

On successful completion you will be able to:

- Estimate measures of forecast accuracy and rank forecasting models.
- Seasonally adjust and detrend data,
- Implement Smoothing, ARIMA and VAR models to produce forecasts.
- Basic literacy in Eviews.

### Assignment

Due: **7am on Monday in Week 12**

Weighting: **30%**

The assignment will be a written task of less than 1000 words that will report the results of a forecasting project. It will assess the work covered in the lectures up to the submission deadline.

Submission

The assignment must be submitted via the relevant links in iLearn prior to the deadline. No other form of submission is acceptable. The assignment may be submitted once only. Submission instructions and information about the requirements of the assignment will be provided in class and on iLearn.

#### Late submission

No extensions will be granted. There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late (for example, 25 hours late in submission incurs a 20% penalty). Late submissions will be accepted up to 96 hours after the due date and time. This penalty does not apply for penalty does not apply for cases in which an application for Special Consideration is made and approved. Note: applications for Special Consideration must be made within 5 (five) business days of the due date and time.

On successful completion you will be able to:

- Estimate measures of forecast accuracy and rank forecasting models.
- Seasonally adjust and detrend data,
- Implement Smoothing, ARIMA and VAR models to produce forecasts.
- Basic literacy in Eviews.

## Test 1

Due: **Week 7**

Weighting: **20%**

A 60-minute test covering all of the material up to week 6 will be held in lecture time in week 7. Students must be available during the time of the lecture class to sit the test. The only exception to this is if a student could not do the test because of documented illness or unavoidable disruption. In these circumstances this student may wish to apply for Special Consideration. When an application for special consideration has been approved, Policy allows for the provision of one additional task. The format, time and date of this task will be determined by the UC.. Note: applications for Special Consideration must be made within 5 (five) business days of the due date and time.

On successful completion you will be able to:

- Estimate measures of forecast accuracy and rank forecasting models.
- Seasonally adjust and detrend data,

## Test 2

Due: **Week 13**

Weighting: **40%**

Test 2 is of 2 hours duration and will be held in lecture time in week 13. Students must be available during the time of the lecture class to sit the Class test. The only exception to this is if a

student could not do the test because of documented illness or unavoidable disruption. The only exception to this is if a student could not do the test because of documented illness or unavoidable disruption. In these circumstances this student may wish to apply for Special Consideration. When an application for special consideration has been approved, Policy allows for the provision of one additional task. The format, time and date of this task will be determined by the UC. Note: applications for Special Consideration must be made within 5 (five) business days of the due date and time.

The examination will be closed-book and will include short answer questions that require both calculation and written responses. Details of the structure of the final examination will be provided when available during the semester.

Class test conditions: 1 x A4 page of handwritten or typed notes (both sides) to be returned with the exam paper; Non-programmable calculators (no text retrieval capacity) permitted; No dictionaries permitted.

On successful completion you will be able to:

- Estimate measures of forecast accuracy and rank forecasting models.
- Seasonally adjust and detrend data,
- Implement Smoothing, ARIMA and VAR models to produce forecasts.

## **Delivery and Resources**

### **Classes**

- There is a single 2 hour lecture class per week. There is also a 1 hour tutorial class held in each of weeks 2 to 12. Students must enrol in a tutorial class at the start of the semester.
- It will be assumed that students attend all lectures and tutorials.
- The timetable for classes can be found on the University web site.

### **Required and Recommended Texts and/or Materials**

Students are not required to purchase a textbook for ECON361. A detailed reading list will be on the unit website, and all references are available via the Library eReserve. Students are expected to read this material.

### **Technology Used and Required**

- The main software used in ECON361 is the EViews software which can be accessed through iLab.
- Students will need to use a spreadsheet for some parts of this unit. Microsoft Excel will be provided in the computing laboratories and must be used in the tutorials. The assignments may require the submission of a spreadsheet which must be in a recent

Excel format.

## Unit Web Page

The web page for this unit can be found on the iLearn web site.

## Teaching and Learning Strategy

ECON361 is taught by lectures, set reading, tutorial exercises, an assignment, and class discussion. Students are expected to attend lectures, read the relevant material after the lecture, attend tutorial classes and participate in class discussions.

## Unit Schedule

Week	Topic	Tutorials	Work Due
Week 1	Introduction		
Week 2	Forecast evaluation	Tutorial 1	
Week 3	Time series decomposition	Tutorial 2	
Week 4	Exponential smoothing	Tutorial 3	
Week 5	Exponential smoothing	Tutorial 4	
Week 6	ARIMA	Tutorial 5	
Week 7	ARIMA	Tutorial 6	Test 1
Week 8	ARIMA	Tutorial 7	
Week 9	ARIMA	Tutorial 8	
Week 10	ARIMA	Tutorial 9	
Week 11	Vector autoregression	Tutorial 10	
Week 12	Vector autoregression	Tutorial 11	Assignment
Week 13	Test 2		Test 2

Note: This schedule is approximate and is subject to change according to the rate of progress made.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). 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](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

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

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/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 [ask.mq.edu.au](https://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Student Support

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

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](https://mq.edu.au/learningskills)) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](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.

## Graduate Capabilities

### Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

### Learning outcomes

- Estimate measures of forecast accuracy and rank forecasting models.
- Seasonally adjust and detrend data,
- Implement Smoothing, ARIMA and VAR models to produce forecasts.
- Basic literacy in Eviews.

### Assessment tasks

- Tutorials
- Assignment



- Test 1
- Test 2

## Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

### Learning outcomes

- Estimate measures of forecast accuracy and rank forecasting models.
- Seasonally adjust and detrend data,
- Implement Smoothing, ARIMA and VAR models to produce forecasts.
- Basic literacy in Eviews.

### Assessment tasks

- Tutorials
- Assignment
- Test 1
- Test 2

## Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

### Learning outcomes

- Estimate measures of forecast accuracy and rank forecasting models.
- Seasonally adjust and detrend data,
- Implement Smoothing, ARIMA and VAR models to produce forecasts.
- Basic literacy in Eviews.

### Assessment tasks

- Tutorials
- Assignment

- Test 1
- Test 2