



BUSA3015

Business Forecasting

Session 1, Special circumstances 2021

Department of Actuarial Studies and Business Analytics

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Notice

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group activities on campus, and most will keep an online version available to those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

General Information

Unit convenor and teaching staff

Unit Convenor | Lecturer

Dr. Prashan Karunaratne

prashan.karunaratne@mq.edu.au

Contact via "Contact the Unit Convenor" link on iLearn.

4ER 243

Credit points

10

Prerequisites

130cp at 1000 level or above including (STAT150 or STAT1250 or STAT170 or STAT1170 or MKTG216 or MGMT2016)

Corequisites

Co-badged status

Unit description

This unit explores business forecasting by considering the planning process of the organisation, the environment in which business forecasts are made, prediction of key variables using qualitative and quantitative information, and the practical considerations of forecast implementation. Quantitative predictions will generally make use of spreadsheets and simple statistical procedures that can be easily applied in the business environment.

Important Academic Dates

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

Learning Outcomes

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

ULO1: Identify and explain the need for, and uses of, forecasting in a business context.

ULO2: Select and apply quantitative and qualitative forecasting techniques for use in business.

ULO3: Demonstrate practical knowledge of spreadsheets and statistical software to produce business forecasts.

ULO4: Critically examine business contexts and transform relevant data to provide recommendations for stakeholders.

General Assessment Information

Assessment criteria for all assessment tasks will be provided on the unit iLearn site.

It is the responsibility of students to view their marks for each within-session-assessment on iLearn within 20 days of posting. If there are any discrepancies, students must contact the unit convenor immediately. Failure to do so will mean that queries received after the release of final results regarding assessment tasks (not including the final exam mark) will not be addressed.

Late submissions and extensions

Tasks 10% or less – No extensions will be granted. Students who have not submitted the task prior to the deadline will be awarded a mark of 0 for the task, except for cases in which an application for special consideration is made and approved.

Tasks above 10% - 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 – 20% penalty). This penalty does not apply for cases in which an application for special consideration is made and approved. No submission will be accepted after solutions have been posted.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Online quizzes</u>	10%	No	Week 7 & 10
<u>Critical Thinking - Applying forecasting to problems - Two Reports</u>	40%	No	26th Apr & 24th May
<u>Final Examination</u>	50%	No	University Exam Period

Online quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Week 7 & 10**

Weighting: **10%**

There will be two online quizzes that involve a range of multiple choice and/or short answer style questions. You will be making calculations and recommendations.

On successful completion you will be able to:

- Identify and explain the need for, and uses of, forecasting in a business context.
- Select and apply quantitative and qualitative forecasting techniques for use in business.
- Demonstrate practical knowledge of spreadsheets and statistical software to produce business forecasts.

Critical Thinking - Applying forecasting to problems - Two Reports

Assessment Type ¹: Case study/analysis

Indicative Time on Task ²: 30 hours

Due: **26th Apr & 24th May**

Weighting: **40%**

Students will submit two reports, of between 500-750 words each, as well as numerical answers submitted through iLearn, addressing the presented problem/s and/or issues. Your ability to think critically will be assessed.

On successful completion you will be able to:

- Select and apply quantitative and qualitative forecasting techniques for use in business.
- Critically examine business contexts and transform relevant data to provide recommendations for stakeholders.

Final Examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 15 hours

Due: **University Exam Period**

Weighting: **50%**

An online open book exam of 2 hours duration (plus 10 minutes reading time) will be undertaken during the University Examination period.

On successful completion you will be able to:

- Select and apply quantitative and qualitative forecasting techniques for use in business.
- Critically examine business contexts and transform relevant data to provide recommendations for stakeholders.

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 [Learning Skills Unit](#) 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

Classes

Number and length of classes: 3 hours teaching per week, consisting of 1 x 2 hour lecture and 1 x 1 hour tutorial. Tutorials begin in Week 2.

Classes may be face-to-face or online depending on your choice of timetable and the prevailing public health advice due to the COVID-19 pandemic.

The timetable for classes can be found on the University web site at: <https://timetables.mq.edu.au/2021/>

Recommended Texts and/or Materials

You do *not* need to buy these books. Handouts of readings that cover similar material will be distributed via iLearn.

Hanke, John E & Wichern, Dean W, (2013), *Business Forecasting*, (International Edition) Pearson, (9th Edition) ISBN: 9781292023007, ISBN 10: 1292023007

Also available as a Kindle book.

The library has complimentary electronic copies where a certain number of users can access the book at the same time.

Additional readings

Hyndman, Rob J and Athanasopoulos, George (2014), *Forecasting: principles and practice*, OTexts Online: <https://www.otexts.org/fpp/>

Technology Used and Required

Students will learn to use *Microsoft Excel* (compulsory) and *MINITAB* (optional).

Unit Web Page

The web page for this unit can be found at: [iLearn http://ilearn.mq.edu.au](http://ilearn.mq.edu.au)

Teaching and Learning Strategy

This unit is lecture- and tutorial-based. Typically, the class-time structure will be like this:

- **Lectures:** Business Forecasting theory and concepts will be discussed. We will establish links between theory and your personal knowledge in a business strategic planning

setting during class discussions.

- **Tutorials:** students are required to work on some tasks of business forecasting solutions using several models and techniques. Student participation and meaningful contribution are essential to understand business forecasting concepts and calculations.

Lecture notes will be posted before each lecture on [*iLearn*](#)

Passing the Unit

Students must obtain a mark of 50% to pass the unit.

There are no other hurdle requirements for passing the unit.

Unit Schedule

Week/s	Lecture Topics Covered	Chapter(s)	Other Information
Week 1	Introduction to Forecasting in Management <ul style="list-style-type: none"> • Explaining the unit outline. • The meaning and philosophy of forecasting. • Organisations, planning and budgeting. 	Hanke & Wichern (H & W) Ch. 1 Hyndman & Athanasopoulos (H & A) Ch. 1	
Week 2	The Forecasting Environment <ul style="list-style-type: none"> • Evaluation of forecasting tasks. • Definition of time series. • Sources of data for prediction. • Analysing components of Time Series. • Stationarity 	H & W Ch. 2, 3, 5 H & A Ch. 2	
Weeks 3 - 6	Introduction to Quantitative Forecasting Techniques <ul style="list-style-type: none"> • Errors of prediction, Costs of errors • Simple predictor models • Naïve, MA, SES 	H & W Ch. 4, 5 H & A Ch. 2, 7	
	Incorporating Steps and Trends <ul style="list-style-type: none"> • ARSSES model • Prediction of trends • Holts smoothing model • Trend extrapolation 	H & W Ch. 4, 5 H & A Ch. 7	

	<p>Exploring Seasonality</p> <ul style="list-style-type: none"> • Seasonal models • De-seasonalising data • Decomposition • Winters Smoothing Model 	<p>H & W Ch. 4, 5</p> <p>H & A Ch. 6, 7</p>	
Weeks 7 - 9	<p>Regression Models (I)</p> <ul style="list-style-type: none"> • Introduction to Regression models. • Ways to Evaluate Models • Diagnosing Regression Models 	<p>H & W Ch. 6, 7</p> <p>H & A Ch. 4, 5</p>	<p>Quiz 1 in Week 7 - see iLearn for day and time</p> <p>Case Study Report 1 due Monday, 26th April, 11:59pm Sydney time</p>
	<p>Regression Models (II)</p> <ul style="list-style-type: none"> • Dummy Variables • Trends in Regression • Autoregressions 	<p>H & W Ch. 7, 8</p> <p>H & A Ch. 4, 5, 9</p>	
Week 10	<p>Business Indicators</p> <ul style="list-style-type: none"> • Leading Indicators • Cycles • Anticipatory Surveys 		<p>Quiz 2 in Week 10 - see iLearn for day and time</p>
Week 11	<p>Judgmental Forecasting (I)</p> <ul style="list-style-type: none"> • Judgmental methods • Subjective probability assessments. • The role of judgmental prediction in the organisation 	<p>H & W Ch. 10</p> <p>H & A Ch. 3</p>	
	<p>Judgmental Forecasting (II)</p> <ul style="list-style-type: none"> • Scenario development methods • DELPHI approaches • Analogy methods 	<p>H & W Ch. 10</p> <p>H & A Ch. 3</p>	
Week 12	<p>Judgmental Forecasting and Forecast Adjustments (I)</p> <ul style="list-style-type: none"> • Other types of Judgmental Forecast Methods • Judgmental Forecast Examples • Combining Forecasts 	<p>H & W Ch. 10</p> <p>H & A Ch. 3</p>	<p>Case Study Report 2 due Monday, 24th May, 11:59pm Sydney time</p>

	<p>Judgmental Forecasting and Forecast Adjustments (II)</p> <ul style="list-style-type: none"> • Using all the information to forecast. • Putting it all together. • Forecasting in practice. • The future of forecasting 	<p>H & W Ch. 10, 11</p> <p>H & A Ch. 3</p>	
<p>Week 13</p>	<p>Revision</p> <p>Exam Preparation</p>		

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](#)
- [Grade Appeal Policy](#)
- [Complaint Management 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 ask.mq.edu.au or if you are a Global MBA student contact 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) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [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 Enquiry Service

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

Equity 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.

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.