



BUSA3015

Business Forecasting

Session 1, Weekday attendance, North Ryde 2020

Department of Actuarial Studies and Business Analytics

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General Information

Unit convenor and teaching staff

Unit Convenor | Lecturer

Dr. Prashan Karunaratne

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4ER 449 (E4A 449)

Advertised on iLearn

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://www.mq.edu.au/study/calendar-of-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.

Assessment Tasks

Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult [iLearn](#) for revised unit information.

[Find out more about the Coronavirus \(COVID-19\) and potential impacts on staff and students](#)

General Assessment Information

It is the responsibility of students to view their marks for each within session assessment on iLearn within 20 working 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 marks (not including the final exam mark) will not be addressed.

Delivery and Resources

Coronavirus (COVID-19) Update

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: https://ask.mq.edu.au/account/pub/display/unit_status

Classes

Number and length of classes: 3 hours face-to-face teaching per week, consisting of 1 x 2 hour lecture and 1 x 1 hour tutorial. The timetable for classes can be found on the University web site at: <http://www.timetables.mq.edu.au/>

Recommended Texts and/or Materials

You do *not* need to buy these books. Occasionally, handouts thereof might be distributed in class.

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.

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 spreadsheets (*MS-Excel*) and *MINITAB*.

Time permitting, students will be given an introduction to *Power BI*.

Unit Web Page

The web page for this unit can be found at: iLearn <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.

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Unit Schedule

Coronavirus (COVID-19) Update

The unit schedule/topics and any references to on-campus delivery below may no longer be relevant due to COVID-19. Please consult [iLearn](#) for latest details, and check here for updated delivery information: https://ask.mq.edu.au/account/pub/display/unit_status

| 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 - 5 | 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 | |
| | Exploring Seasonality <ul style="list-style-type: none"> Seasonal models De-seasonalising data Decomposition Winters Smoothing Model | H & W Ch. 4, 5 H & A Ch. 6, 7 | Test 1 in the Week 6 Tutorial |

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| Week 7 | Public Holiday - replaced by a make-up lecture online (note: Week 6 is below) | | Public Holiday - replaced by a make-up lecture online (note: Week 6 is below) |
| Weeks 6, 8 & 9 | Regression Models (I) <ul style="list-style-type: none"> • Introduction to Regression models. • Ways to Evaluate Models • Diagnosing Regression Models | H & W Ch. 6, 7 H & A Ch. 4, 5 | Case Study Report 1 due Tuesday, 28th April, 11pm Sydney time) |
| | Regression Models (II) <ul style="list-style-type: none"> • Dummy Variables • Trends in Regression • Autoregressions, VAR | H & W Ch. 7, 8 H & A Ch. 4, 5, 9 | Test 2 in the Week 10 Tutorial |
| Week 10 | Business Indicators <ul style="list-style-type: none"> • Leading Indicators • Cycles • Anticipatory Surveys | | |
| Week 11 | Judgmental Forecasting (I) <ul style="list-style-type: none"> • Judgmental methods • Subjective probability assessments. • The role of judgmental prediction in the organisation | H & W Ch. 10 H & A Ch. 3 | |
| | Judgmental Forecasting (II) <ul style="list-style-type: none"> • Scenario development methods • DELPHI approaches • Analogy methods | H & W Ch. 10 H & A Ch. 3 | |
| Week 12 | Judgmental Forecasting and Forecast Adjustments (I) <ul style="list-style-type: none"> • Other types of Judgmental Forecast Methods • Judgmental Forecast Examples • Combining Forecasts | H & W Ch. 10 H & A Ch. 3 | Case Study Report 2 due Tuesday, 26th May, 11pm Sydney time) |
| | Judgmental Forecasting and Forecast Adjustments (II) <ul style="list-style-type: none"> • Using all the information to forecast. • Putting it all together. • Forecasting in practice. • The future of forecasting | H & W Ch. 10, 11 H & A Ch. 3 | |

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| Week 13 | Revision | | |
| | Exam Preparation | | |

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.*)

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 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 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

If you are a Global MBA student contact 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/.

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.

Changes since First Published

| Date | Description |
|------------|--------------------------------|
| 24/07/2020 | updated assessment description |