



# STAT6170

## Introductory Statistics

Session 1, Online with attendance for exam, Exam centre within Australia 2020

*Department of Mathematics and Statistics*

### Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	3
<u>General Assessment Information</u>	3
<u>Assessment Tasks</u>	3
<u>Delivery and Resources</u>	5
<u>Unit Schedule</u>	6
<u>Policies and Procedures</u>	7
<u>Changes from Previous Offering</u>	8
<u>Changes since First Published</u>	9

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## General Information

Unit convenor and teaching staff

Unit Convenor/Lecturer

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12WW 619

please refer to iLearn

Frank Schoenig

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Credit points

10

Prerequisites

Admission to MAppStat or GradCertAppStat or GradDipAppStat or MBiotech or MRadiopharmSc or MSc or MDataSc or MLabQAMgt or GradDipLabQAMgt or GradCertLabQAMgt or GradCertMarScMgt or GradDipMarScMgt or MMarScMgt or MEnv or MScInnovationStat or MConBiol or GradDipConBiol or GradCertConBio or MScInnovationEnvSc or MSusDev or GradCertEnv or GradDipEnv

Corequisites

Co-badged status

Unit description

This unit provides a broad introduction to statistical concepts and data analysis techniques, providing basic statistical knowledge. The unit is concerned with the development of an understanding of statistical practice and is illustrated by a study of those techniques most commonly used in the sciences, social sciences and humanities. The aim of statistical practice is to make the scientific research process efficient; for this reason statistics is used in disciplines ranging from accountancy to zoology. Topics covered in this unit include: data collection methods; data quality; data summarisation; and statistical models like the normal distribution, followed by sampling distributions and statistical inferences about means, proportions and quantiles. Also studied are methods of analysis relating to comparisons, counted data and relationships, including regression and correlation. Statistical computer packages are used for handling and analysing data along with word processing for reporting the results. However, no prior computing knowledge is assumed.

## 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:** Organise and summarise data graphically and numerically.
- ULO2:** Analyse and solve problems about distributions and sampling distributions.
- ULO3:** Evaluate and apply statistical strategies to answer a research question.
- ULO4:** Draw conclusions from the results of a statistical analysis.
- ULO5:** Evaluate the appropriateness of statistical methodologies when analysing a variety of problems arising from other fields of research.
- ULO6:** Demonstrate the ability to write a report based on the results of a statistical analysis.

## 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

**HURDLES:** All assessment tasks are hurdle requirements to pass this unit. These can be different for internal and external students. Details will be provided on the iLearn page for the unit.

**ATTENDANCE and PARTICIPATION:** Please contact the unit convenor as soon as possible if you have difficulty attending and participating in any classes. There may be alternatives available to make up the work. If there are circumstances that mean you will miss a class, you can apply for Special Consideration via [ask.mq.edu.au](https://ask.mq.edu.au)

**ASSIGNMENT SUBMISSION:** Assignment submission will be online through the iLearn page.

Submit assignments online via the appropriate assignment link on the iLearn page. A personalised cover sheet is not required with online submissions. Read the submission statement carefully before accepting it as there are substantial penalties for making a false declaration.

- Assignment submission is via iLearn. You should upload this as a single scanned PDF file.

- Please note the quick guide on how to upload your assignments provided on the iLearn page.
- Please make sure that each page in your uploaded assignment corresponds to only one A4 page (do not upload an A3 page worth of content as an A4 page in landscape). If you are using an app like Clear Scanner, please make sure that the photos you are using are clear and shadow-free.
- It is your responsibility to make sure your assignment submission is legible.
- If there are technical obstructions to your submitting online, please email us to let us know.

You may submit as often as required prior to the due date/time. Please note that each submission will completely replace any previous submissions. It is in your interests to make frequent submissions of your partially completed work as insurance against technical or other problems near the submission deadline.

**LATE SUBMISSION OF WORK:** All assessment tasks must be submitted by the official due date and time. In the case of a late submission for a non-timed assessment (e.g. an assignment), if special consideration has NOT been granted, 20% of the earned mark will be deducted for each 24-hour period (or part thereof) that the submission is late for the first 2 days (including weekends and/or public holidays). For example, if an assignment is submitted 25 hours late, its mark will attract a penalty equal to 40% of the earned mark. After 2 days (including weekends and public holidays) a mark of 0% will be awarded. Timed assessment tasks (e.g. tests, examinations) do not fall under these rules.

**FINAL EXAM POLICY:** 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, the final day of the official examination period. The only excuse for not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these special circumstances, you may apply for special consideration via [ask.mq.edu.au](http://ask.mq.edu.au).

If you receive special consideration for the final exam, a supplementary exam will be scheduled in the interval between the regular exam period and the start of the next session. By making a special consideration application for the final exam you are declaring yourself available for a resit during this supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application.

You can check the supplementary exam information page on FSE101 in iLearn ([bit.ly/FSESupp](http://bit.ly/FSESupp)) for dates, and approved applicants will receive an individual notification one week prior to the exam with the exact date and time of their supplementary examination.

## 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](https://ask.mq.edu.au/account/pub/display/unit_status)

## Census dates

The last day to withdraw from this unit without financial or academic penalty is March 19. The last date to withdraw from this unit without academic penalty is April 28.

## Classes

STAT6170 will be delivered remotely, and no classes are scheduled.

Students will be given the opportunity to watch STAT1170-INT lecture recordings on iLearn and may sit in on STAT1170 lectures if they wish (please see timetable for locations and times).

**Please note:** there are no small group teaching activities (SGTA) or practical classes for STAT6170, but students are expected to work through the material used in STAT1170 classes.

## Software

The supported statistical software for this unit is **Excel**. Students will be given guidance on how to use this software and be expected to conduct their analyses using Excel for the in-session assessments.

## Help with STAT6170 Related Administrative Matters

For help with STAT6170 related administrative matters students should email the convenor.

## Required and Recommended Texts and/or Materials

- A calculator with statistics mode is essential and should be used for all tasks to help prepare for the final exam.
- Excel can be downloaded from the student portal. This can be accessed from the web page for Student IT services: [http://students.mq.edu.au/it\\_services/](http://students.mq.edu.au/it_services/).

Recommended textbook used in this unit:

- Modern Statistics: An introduction, Don McNeil and Jenny Middledorp (ISBN 9781486007011). This can be purchased in hard copy from, for example, the Coop Bookshop or in e-format (ISBN 9781486022120, access details to be provided in class).

Other recommended reading:

- Introduction to the Practice of Statistics, Moore, D.S. and McCabe, G. P (W.H. Freeman)
- Statistics without Tears by Rowntree (Penguin)
- Mind on Statistics by Utts & Heckard (Thomson, 2004)
- Elementary Statistics by Johnson & Kuby (Thomson, 2007)
- Statistics: The Art & Science of Learning from Data by Agresti & Franklin (Prentice Hall, 2007)
- The Statistical Sleuth by Ramsey and Schafer (Duxbury, 2002)

## Technology Used and Required

iLearn, (which is a version of Moodle) is used for delivery of STAT6170 course material and can be accessed at: <http://ilearn.mq.edu.au>

## 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](https://ask.mq.edu.au/account/pub/display/unit_status)

MODULE	WEEK	LECTURE TOPIC	ASSESSMENT
1	1 2	Introduction to statistics, Graphing data, Numerical summaries	<b>Online Quiz</b> [15 marks] <ul style="list-style-type: none"> <li>• Due in week 4</li> <li>• Topics: modules 1, Excel</li> </ul>
2	3 4	The Normal distribution, Distribution of means and proportions, Confidence intervals	<b>Online Quiz</b> [15 marks] <ul style="list-style-type: none"> <li>• Due in week 6</li> <li>• Topics: modules 1-2, Excel</li> </ul>
3	5 6	One sample hypothesis test for a population mean, Hypothesis tests for comparing population means	<b>Online Quiz</b> [15 marks] <ul style="list-style-type: none"> <li>• Due in week 8</li> <li>• Topics: modules 1-3, Excel</li> </ul>
4	7 8	Simple linear regression	<b>Online Quiz</b> [15 marks] <ul style="list-style-type: none"> <li>• Due in week 10</li> <li>• Topics: modules 1-4, Excel</li> </ul>

MODULE	WEEK	LECTURE TOPIC	ASSESSMENT
5	9 10	Hypothesis tests for a population proportion: z-test and chi-squared goodness-of fit, Chi-squared test of independence	<b>Online Quiz</b> [15 marks] <ul style="list-style-type: none"> <li>• Due in week 12</li> <li>• Topics: modules 1-5, Excel</li> </ul>
	11 12	How to write a statistical report	<b>Statistical report</b> [25 marks] <ul style="list-style-type: none"> <li>• Due in week 12</li> <li>• Topics: weeks 11, 22, modules 1-5, Excel</li> </ul>

## 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](http://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](http://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](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.

## Changes from Previous Offering

The assessment plan has changed; in particular, there is no final exam.



## Changes since First Published

Date	Description
03/03/2020	Students were incorrectly told they can sit in stat1170 SGTAs and pracs.
27/02/2020	re-ordered the assessments in due date order
19/02/2020	re-ordered the assessments in due date order