BIOL2610

Biological Data Analysis

Session 1, Weekday attendance, North Ryde 2020

Department of Biological Sciences

Contents

General Information	2
Learning Outcomes	2
General Assessment Information	3
Assessment Tasks	3
Delivery and Resources	3
Policies and Procedures	3
Changes since First Published	5

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General Information

Unit convenor and teaching staff
Drew Allen
drew.allen@mq.edu.au

Kate Barry
kate.barry@mq.edu.au

Credit points
10

Prerequisites
40cp at 1000 level or above including (((STAT1170 or STAT170(P)) or (STAT1250 or STAT150) or (STAT1371 or STAT171) or FOSE1015) and (10cp(P) in BBE or BIOL units))

Corequisites

Co-badged status
BIOL6610

Unit description
Biological organisms are inherently variable, which means that practicing biologists need a solid grasp of how to design and implement experiments, perform statistical analyses on the resulting data, and correctly interpret the results of statistical tests. This unit provides a foundation in the principles of experimental design and data analysis for biology. The unit is taught by biology staff and draws on research carried out in the Department of Biological Sciences. Students also learn the overall process of asking and answering questions in biology. Students learn a range of common data analysis techniques, and how to interpret the outcomes of these analyses. There is a strong emphasis on critically evaluating biological studies and identifying sound conclusions and not-so-sound conclusions. This unit is strongly recommended for students planning a career in biology or environmental science.

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: Develop testable hypotheses from general scientific questions

ULO2: Design an unconfounded experiment to test a given scientific hypothesis

ULO3: Choose an appropriate statistical test to analyse experimental data

ULO4: Carry out and correctly interpret a range of commonly used statistical tests using the computer package R

ULO5: Clearly present outcomes of statistical analyses using figures, tables and text

ULO6: Critically evaluate other studies with respect to experimental design and the application and interpretation of statistics

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

All assessments must be undertaken independently and written in your own words. You will be required to submit your Experiment Report to Turnitin to check for plagiarism. Practical participation is a hurdle for this unit. To pass, you must participate in a minimum of 9 of 13 weekly practicals.

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

There are two 1-hour lectures per week, and a one 2-hour practical. Lecture recordings and pdf files of lectures slides are available through iLearn.

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). 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). 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).

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
11/02/2020	None.