



# HLTH2110

## Clinical Epidemiology and Biostatistics for Health Sciences

Session 2, Special circumstances 2021

*Department of Chiropractic*

### Contents

---

<u>General Information</u>	3
<u>Learning Outcomes</u>	4
<u>General Assessment Information</u>	4
<u>Assessment Tasks</u>	5
<u>Delivery and Resources</u>	8
<u>Unit Schedule</u>	9
<u>Policies and Procedures</u>	10

#### **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.

#### **Session 2 Learning and Teaching Update**

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of [units with mandatory on-campus classes/teaching activities](#).



Visit the [MQ COVID-19 information page](#) for more detail.

## General Information

### Unit convenor and teaching staff

Unit convenor

Michael Swain

[michael.swain@mq.edu.au](mailto:michael.swain@mq.edu.au)

Contact via 9850 4053

17WW349

By appointment

Lecturer

Huan Lin

[huan.lin@mq.edu.au](mailto:huan.lin@mq.edu.au)

Contact via 9850 9174

12WW6.09

By appointment

Lecturer

Balamehala Pasupathy

[balamehala.pasupathy@mq.edu.au](mailto:balamehala.pasupathy@mq.edu.au)

By appointment

Tutor

Virginia Mandelburger

[maria.benitezdemandelburger@mq.edu.au](mailto:maria.benitezdemandelburger@mq.edu.au)

By appointment

Credit points

10

Prerequisites

Admission to BChiroSc and CHIR1101 or CHIR113 or ANAT1001 or HLTH108 or BIOL1210 or BIOL108

Corequisites

Co-badged status

Unit description

An introductory unit on the principles of evidence based health practice. This unit covers a range of issues in research including: subjectivity and objectivity, different research strategies, evaluation and interpretation of data and ethical issues. Concepts of efficacy, effectiveness, clinical and statistical significance and critical appraisal of published work are introduced.

## 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:** Explain the role of research and scientific enquiry in health sciences, explain the importance of evidence based health care
- ULO2:** Compare relative merits of different levels of 'evidence'
- ULO3:** Critically appraise available information including published work related to health sciences
- ULO4:** Explain ethics, confidentiality, conflict of interest and related issues in the context of research and clinical practice
- ULO5:** Use spread sheets and a software such as Minitab for basic statistical analyses of data
- ULO6:** Interpret basic epidemiological and statistical terms such as confidence intervals, effectiveness, efficacy, error, incidence, mean, median, mode, prevalence, probability, reproducibility, risk, sample size, sampling, standard deviation, sensitivity, significance, specificity and validity

## General Assessment Information

### 1. Practical

The practical exercises will be marked each week. The final mark for the practical component will be calculated using marks from all practicals.

### 2. Assignment

Specific details of the Assignment will be provided in week 2 on the unit's iLearn page. The assignment must be submitted by the due date.

Extension to the due date may be granted under extenuating circumstances. Application for extensions must be made under the Special Consideration Policy, applied for through [ask.mq.edu.au](http://ask.mq.edu.au) within 5 days of the disruption and before the submission date of the assignment. Resubmission of assignments will not be considered under usual circumstances. Late submissions will receive a 5% per day penalty including weekends and public holidays. If you submit the assessment task 10 days or more beyond the due date, without an approved extension, you will be awarded a maximum of 50% of the overall assessment marks.

### 3. Examination

The University Examination period for the Second Half Year 2021 starts in November.

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. You are expected to ensure that you are available until the end of the teaching semester that is the final day of the official examination period.

The raw marks resulting from the assessment of your work will be used as an initial indicator of the quality of your learning and understanding. Note that the mark ranges mentioned for different grades in the Macquarie University Undergraduate Handbook are not the raw marks. To obtain a grade you must satisfy the qualitative definition of that grade. Once your grade has been determined, you are allocated a mark in the appropriate range indicating your approximate position amongst students assigned that grade.

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in draft form approximately eight weeks before the commencement of the examinations and the final form approximately four weeks before the commencement of the examinations.

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances, you may wish to consider applying for Special Consideration. Information about the Special Consideration process is available at

<https://students.mq.edu.au/study/my-study-program/special-consideration>

Students with a pre-existing disability/health condition or prolonged adverse circumstances may be eligible for ongoing assistance and support. Such support is governed by other policies and may be sought and coordinated through Wellbeing and Support Services.

Supplementary examination: If you receive special consideration for the final exam, a supplementary exam will be scheduled in the Faculty's supplementary exam period. By making a special consideration application for the final exam you are declaring yourself available for a resit during the 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 before applying. Approved applicants will receive an individual notification one week before the exam with the exact date and time of their supplementary examination. The supplementary exam may be in a different format to the original exam (e.g. oral examination) and you will be notified of this when you are granted a supplementary exam.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#"><u>Practical work</u></a>	20%	No	Ongoing weeks 2-12
<a href="#"><u>Assignment</u></a>	20%	No	10th of September
<a href="#"><u>Final examination</u></a>	60%	No	Session 2 Exam Period

## Practical work

Assessment Type <sup>1</sup>: Practice-based task

Indicative Time on Task <sup>2</sup>: 8 hours

Due: **Ongoing weeks 2-12**

Weighting: **20%**

Exercises based on Practical sessions. These will be short answer questions based on that week's practical content, to be completed in conjunction with practical tasks.

On successful completion you will be able to:

- Explain the role of research and scientific enquiry in health sciences, explain the importance of evidence based health care
- Compare relative merits of different levels of 'evidence'
- Critically appraise available information including published work related to health sciences
- Explain ethics, confidentiality, conflict of interest and related issues in the context of research and clinical practice
- Use spread sheets and a software such as Minitab for basic statistical analyses of data
- Interpret basic epidemiological and statistical terms such as confidence intervals, effectiveness, efficacy, error, incidence, mean, median, mode, prevalence, probability, reproducibility, risk, sample size, sampling, standard deviation, sensitivity, significance, specificity and validity

## Assignment

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 8 hours

Due: **10th of September**

Weighting: **20%**

Assignment would include data analysis and interpretation as well as critical appraisal of published articles.

On successful completion you will be able to:

- Explain the role of research and scientific enquiry in health sciences, explain the

importance of evidence based health care

- Compare relative merits of different levels of 'evidence'
- Critically appraise available information including published work related to health sciences
- Explain ethics, confidentiality, conflict of interest and related issues in the context of research and clinical practice
- Use spread sheets and a software such as Minitab for basic statistical analyses of data
- Interpret basic epidemiological and statistical terms such as confidence intervals, effectiveness, efficacy, error, incidence, mean, median, mode, prevalence, probability, reproducibility, risk, sample size, sampling, standard deviation, sensitivity, significance, specificity and validity

## Final examination

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 24 hours

Due: **Session 2 Exam Period**

Weighting: **60%**

This will be a 2 hour written examination with questions (MCQ, true/false, filling in the blank and short answers) related to all lecture and practical material.

On successful completion you will be able to:

- Explain the role of research and scientific enquiry in health sciences, explain the importance of evidence based health care
- Compare relative merits of different levels of 'evidence'
- Critically appraise available information including published work related to health sciences
- Explain ethics, confidentiality, conflict of interest and related issues in the context of research and clinical practice
- Interpret basic epidemiological and statistical terms such as confidence intervals, effectiveness, efficacy, error, incidence, mean, median, mode, prevalence, probability, reproducibility, risk, sample size, sampling, standard deviation, sensitivity, significance, specificity and validity

---

<sup>1</sup> 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.

<sup>2</sup> 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

### Delivery mode

1. One 2-hour online lecture per week, weeks 1-8, 10-13.
2. Ten 2-hour practicals per student, starting from week 2-8, 10-12.
3. Four to five hours per week self-instructional learning, readings from the text and exercises on lecture topics

### Class times and locations

Lecture times: 2-hours each week starting from week 1. Available online via the unit's iLearn page

Practicals: 2-hours each week, starting from week 2. Practical classes will be in the 06EaR PC Labs, see the timetable for details <https://timetables.mq.edu.au/2021/Reports/List.aspx>.

You are advised to bring a USB memory stick for practical classes. Practical group allocations will be finalised in Week 1. Students must attend their allocated class. Participation in practical classes is recommended.

NB: This unit involves some / at least one essential on-campus learning activities/activity which will be delivered in accordance with a COVID Safe plan. You will be expected to attend relevant on-campus activities unless the Public Health Order and/or University advice changes.

### Resources

#### Recommended texts

An introduction to medical statistics by Martin Bland (4th edition, 2015; earlier editions should be fine)

Statistics at square one / T.D.V. Swinscow and M.J. Campbell. 10th ed., London: BMJ Books, 2002 (In addition to library copy, this book is available online via <http://www.bmj.com/thebmj>)

Hoffmann et al. Evidence-Based Practice Across the Health Professions. 2 Edn. ISBN: 9780729541350, Elsevier Australia.

Minichiello et al. Research Methods for nursing and health science. 2 Edn; ISBN: 9781740095969; Pearson Education Australia.



### Further reading

Straus, S.E et al. 2005. Evidence-Based Medicine; 4 Edn; Churchill Livingstone

### Useful web-resources

<http://www.mq.edu.au/library> (Macquarie University library site; list and links to many databases and Journals)

<http://www.cochrane.org> (Cochrane Collaboration, the most reliable source of evidence in health care)

<http://www.pedro.org.au/> (Physiotherapy Evidence Database)

### Unit web page

The URL of the HLTH2110 iLearn site is: <https://ilearn.mq.edu.au/>

You will be asked for a username and password. Your username is your student MQID. Your MQID and password have been mailed to you by the University. If you have lost them go to the student portal: <http://students.mq.edu.au/home/>

## Unit Schedule

List of topics by week

**The topic titles are given as a guide only.**

Week	Date (Lecture)	Lecture Topic	Prac Class
1	26-Jul	Unit overview, Excel, Data, Summarising, and Graphing Categorical Data	No
2	2-Aug	Summarising and Graphing Continuous data; populations and samples	Yes
3	9-Aug	Confidence Intervals	Yes
4	16-Aug	Clinical Epidemiology, EBP, what is evidence; where and how to find evidence (Hierarchy of evidence)	Yes
5	23-Aug	Research Planning and Research Designs - I	Yes
6	30-Aug	Research Designs - II	Yes
7	6-Sep	Hypothesis Testing - one and two groups	Yes
Break	13 Sep –		

8	27-Sep	Hypothesis Testing - Regression	Yes
9	4-Oct	Public Holiday	No
10	11-Oct	Hypothesis Testing - Proportions	Yes
11	18-Oct	Research in Clinical Practice (outcome measures)	Yes
12	25-Oct	Ethics, Conflict of Interest and Confidentiality in Health Research	Yes
13	1-Nov	Revision (if students request any specific topic)	No

**Huan (Jaslene) Lin:** Lectures for weeks 1-3, 7-10

**Balamehala Pasupathy:** Lectures for weeks 4-6, 11-12

**Maria Benitez de Mandelburger:** Tutorials for weeks 2-12

## 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](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 Enquiry Service

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)

## 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/](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.