



HLTH2110

Clinical Epidemiology and Biostatistics for Health Sciences

Session 2, Weekday attendance, North Ryde 2020

Department of Chiropractic

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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 learning activities on campus for the second half-year, while keeping an online version available for those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face and online 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

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By appointment

Lecturer

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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. Assignment

Specific details of the Assignment will be provided in your first practical class. 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

(<https://students.mq.edu.au/study/my-study-program/special-consideration>), applied for through 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 without this approval will incur a penalty of 10% of the score for each day of delay. Submissions later than a week after the deadline will not be marked.

2. Practicals

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

3. Examination

The University Examination period for the Second Half Year 2020 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
Assignment	20%	No	11 September (11.59 pm)
Final examination	60%	No	University Exam Period
Practical work	20%	No	Weeks 2-8, 10-12

Assignment

Assessment Type ¹: Report

Indicative Time on Task ²: 8 hours

Due: **11 September (11.59 pm)**

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 ¹: Examination

Indicative Time on Task ²: 24 hours

Due: **University 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

Practical work

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 8 hours

Due: **Weeks 2-8, 10-12**

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
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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 [Writing Centre](#) 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

Delivery mode

1. One 2-hour online lectures per week, weeks 1-13. iLectures are available for this unit.
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 from 8am on Thursday

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/2020/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 practicals is recommended.**

Required and recommended 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

HLTH 2110 List of topics by week

The topic titles are given as a guide only.

Week	Date (Lecture)	Lecture Topic	Prac Class
1	30 Jul	Unit overview, Excel, Data, Summarising, and Graphing Categorical Data	No
2	6 Aug	Summarising and Graphing Continuous data; populations and samples	Yes
3	13 Aug	Confidence Intervals	Yes
4	20 Aug	Clinical Epidemiology, EBP, what is evidence; where and how to find evidence (Hierarchy of evidence)	Yes
5	27 Aug	Research Planning and Research Designs - I	Yes
6	3 Sep	Research Designs - II	Yes
7	10 Sep	Hypothesis Testing - one and two groups	Yes
Break	14 Sep – 25 Sep		
8	1 Oct	Hypothesis Testing - Regression	Yes
9	8 Oct	Public Holiday	No
10	15 Oct	Hypothesis Testing - Proportions	Yes
11	22 Oct	Research in Clinical Practice (outcome measures)	Yes
12	29 Oct	Ethics, Conflict of Interest and Confidentiality in Health Research	Yes

13	5 Nov	Revision (if students request any specific topic)	No
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Houying Zhu: 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://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.