



MEDS21003 Medical Science Research Project 1

Term 1 - 2023

Profile information current as at 03/05/2024 09:38 pm

All details in this unit profile for MEDS21003 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

This is a postgraduate unit which aims to provide you with training in research. You will be taught the foundation skills and knowledge to independently undertake an investigation of a research question in an area of medical science. This research question will be fully researched and reported in written scholarly form in Medical Science Research Project 2. The research question will be of significance to an area of medical science related to your course of enrolment and your investigation will be undertaken with principal supervision from a member of that course's staff.

Details

Career Level: *Postgraduate*

Unit Level: *Level 8*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisites: Enrolment into CG93 Bachelor of Medical Science, Clinical Nutrition major AND completion of 96 credit points, OR completion of 120 credit points OR enrolment into one of the following courses: CV83 Master of Medical Ultrasound CC71 Master of Clinical Chiropractic CL64 Graduate Certificate Tactical Medicine CL70 Graduate Diploma Tactical Medicine CC70 Graduate Diploma Paramedic Science (Critical Care) CH87 Master of Paramedic Science (Paramedic Practitioner) CL88 Master of Nutrition and Dietetics CL89 Graduate Diploma of Nutrition

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

Offerings For Term 1 - 2023

- Online

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**

Weighting: 30%

2. **Written Assessment**

Weighting: 70%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Sessional marker emails and student emails.

Feedback

Students and sessional markers liked the formalised formative feedback opportunities with a draft submission deadline before assessment submissions.

Recommendation

Continue to provide feedback via formalised formative submissions under the assessment tab on Moodle with a deadline for feedback.

Feedback from SUTE Unit Comments.

Feedback

Students appreciated the communication and support from the unit coordinator and sessional markers especially around assessment item expectations.

Recommendation

Continue to communicate regularly with students via the various Moodle forums, emails and Zoom tutorials.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Formulate a research question and specific hypotheses
2. Search, analyse and critically appraise data or textual information
3. Apply suitable bioethical principles to the proposal.

The purpose of Medical Science Research Projects 1 & 2 is to provide the student with training in developing, conducting, and communicating research across theoretical and applied domains. This requires students to undertake an investigation of a research question in an area of medical science aligned with their course of enrolment and to report the investigation in written scholarly form. The research question to be investigated may have either theoretical or applied significance but will add to the body of discipline-specific knowledge and meet the performance criteria for the engaged research element of the appropriate professional competency standards.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes		
	1	2	3
1 - Written Assessment - 30%	•	•	•
2 - Written Assessment - 70%	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes		
	1	2	3
1 - Knowledge	○	○	○
2 - Communication	○	○	○
3 - Cognitive, technical and creative skills		○	
4 - Research	○	○	○
5 - Self-management	○	○	○
6 - Ethical and Professional Responsibility			○
7 - Leadership	○		
8 - Aboriginal and Torres Strait Islander Cultures			

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: [Vancouver](#)
For further information, see the Assessment Tasks.

Teaching Contacts

Ann Quinton Unit Coordinator
a.quinton@cqu.edu.au

Schedule

Week 1 - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Review of research basics <ul style="list-style-type: none">• Definition of research• Research paradigms• Research process• Rationale for conducting research in the health sciences• Formulating a research question/problem using PICO (Participant (or population or problem)/Intervention/Comparison/ Outcome)	Chapters are from the supplementary textbook: Research Methodology, A step-by-step guide for beginners. 5th Ed. Kumar, R. Sage Publications: London. Chapters 1 and 2 Lecture/s Lecture notes	Zoom tutorial Tuesday night 7.00-8.00pm AEST

Week 2 - 13 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Finding a research topic and question <ul style="list-style-type: none">• How to search the literature using PICO• Finding and choosing keywords• Use of Critical Appraisal Tools (CATs) and Risk of Bias (ROB) tools• Identifying a relevant research topic/focus• Planning the research• Synthesising and critiquing the literature to write a literature review	Chapters from the supplementary textbook: Chapters 3 and 4 Lecture/s Lecture notes	

Week 3 - 20 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Determining your study design and basic statistics 1 <ul style="list-style-type: none">• Variables• Measurement scales• Constructing hypotheses• Type 1 and 2 errors• Sample size	Chapters from the supplementary textbook: Chapters 5, 6 and 7 Lecture/s Lecture notes	Tutorial Tuesday night 7.00-8.00pm AEST

Week 4 - 27 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Selecting a study design <ul style="list-style-type: none">• Quantitative research• Qualitative research• Mixed methods• Sampling	Chapters from the supplementary textbook: Chapter 8 Lecture/s Lecture notes	

Week 5 - 03 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Selecting a method of data collection

1. Primary sources

- Observation
- Interview

2. Secondary sources

3. Collecting data using attitudinal scales

How to write a methods section

Chapters from the supplementary textbook:

Chapters 9 and 10

Lecture/s

Lecture notes

Tutorial Tuesday night

7.00-8.00pm AEST

Assessment 1 due

Written Assessment 1-Draft of Research Proposal Due: Week 5

Thursday (6 Apr 2023) 4:00 pm AEST

Vacation Week - 10 Apr 2023

Module/Topic

Chapter

Events and Submissions/Topic

Break week

Week 6 - 17 Apr 2023

Module/Topic

Chapter

Events and Submissions/Topic

Selecting a sample

- Validity
- Reliability
- Bias
- Time frame
- Budget constraints

Chapters from the supplementary textbook:

Chapters 11 and 12

Lecture/s

Lecture notes

Week 7 - 24 Apr 2023

Module/Topic

Chapter

Events and Submissions/Topic

Basic statistics 2 for research proposals

- Parametric statistics
- Non-parametric statistics
- Sensitivity and specificity
- Risk
- Qualitative data analysis

Lecture/s

Lecture notes

Tutorial Tuesday night

7.00-8.00pm AEST

Week 8 - 01 May 2023

Module/Topic

Chapter

Events and Submissions/Topic

Ethics

- Bioethical issues
- Participant information sheet
- Consent form
- Risk appraisal
- Recruitment
- Information protection
- Dissemination of results

Chapters from the supplementary textbook:

Chapter 14

Lecture/s

Lecture notes

Week 9 - 08 May 2023

Module/Topic

Chapter

Events and Submissions/Topic

Ethics

- Guidelines for ethical conduct in Aboriginal and Torres Strait Island Peoples health research

Lecture/s

Lecture notes

Tutorial Tuesday night

7.00-8.00pm

Week 10 - 15 May 2023

Module/Topic

Chapter

Events and Submissions/Topic

Communicating the results

- Developing and using tables
- Answering the clinical question

Chapters from the supplementary textbook:

Chapter 13 and 16

Week 11 - 22 May 2023

Module/Topic

Chapter

Events and Submissions/Topic

Review of your work

- Elements of a good research proposal
- Proof reading your work
- The importance of the final review

Lecture/s
Lecture notes

Tutorial Tuesday night
7.00-8.00pm

Week 12 - 29 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
		Assessment 2 due
Time to finish your assessment		Written Assessment 2-Course Work Ethics Application Due: Week 12 Friday (2 June 2023) 4:00 pm AEST

Review/Exam Week - 05 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 12 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Term Specific Information

Associate Professor Ann Quinton, BAppSc (MRS), GradDip (Ultrasound), MAppSc (Ultrasound), PhD (Medicine), GradCert (Higher Education), AMS, FASA, is the unit coordinator for MEDS21003 Medical Science Research Project 1 for 2023. The best way to contact Ann is via email: a.quinton@cqu.edu.au or Ph: +61 2 9324 5008 as she is often in the labs with students. Ann is based at the Sydney, NSW campus. The email addresses for the sessional markers working in MEDS21003 will be available on the Moodle site.

Assessment Tasks

1 Written Assessment 1-Draft of Research Proposal

Assessment Type

Written Assessment

Task Description

This first assessment requires you to write a draft research proposal (length 1000 words) which you will use to inform and complete assessment task 2. The main aims of assessment 1 are for you to learn how to search and review the literature, select and start writing about your research topic, refine an aim and research question/s that can be answered by the research design and methodology you have selected. You will also start thinking about the risk level of your project. This assessment will provide you with the opportunity for feedback to refine and complete assessment task 2, filling in the CQU Course Work Ethics Application.

A research proposal is a written outline of planned research that allows you, the researcher, to clarify and organise your thoughts on your research topic. The content of the draft proposal is 1000 words $\pm 10\%$. This word count excludes references, the Ethics Checklist and the full text articles. The full text articles will be uploaded separately as PDF files.

The content of the proposal will include:

1. Proposed title.
2. Keywords (minimum 4, maximum 6-7).
3. Literature review. Introduce and outline the area of research you wish to study by synthesising at least five (5) up to date and relevant peer reviewed articles from scientific, medical, and allied health literature. A synthesis of the literature involves you bringing together different and possibly apposing information about a topic and then providing an original interpretation of that topic. A synthesis is NOT a summary of each article you review. Your review will explain any discipline specific terms and ideas and allow you to introduce your research question and

aim and will align with your methodology. You will establish the need for further research by describing an existing gap in knowledge.

4. Research aim and question/s using the Participant (or Population or Problem), Intervention, Comparison, Outcome (PICO) formula.
5. A research design and plan (methodology) that will allow you to answer your research question.
6. Completion of the Ethics Checklist (which can be found on the unit Moodle site) and inserted into your assessment 1 word document in word format.
7. A risk statement (two to three sentences) about whether the proposal is low or high risk and why. Hint: use the Ethics Checklist to help you decide the level of risk.
8. A reference list of at least five (5) references using Vancouver referencing style. The references should be current or highly cited and relevant to the topic and from peer reviewed journals.
9. Three (3) of the most relevant full text articles uploaded separately onto Moodle as PDF files.

Further detailed information on how to complete the task is provided to you under the assessment tab in Moodle.

Assessment Due Date

Week 5 Thursday (6 Apr 2023) 4:00 pm AEST

Online submission via the unit Moodle site.

Return Date to Students

Return will be at or after 21/04/2021 due to moderation of multiple markers

Weighting

30%

Assessment Criteria

The criteria to receive a Pass are as follows:

- The title should be clear and concise, reflect the topic, and engage the reader.
- Keywords should correctly and adequately reflect the topic.
- The literature review is an original synthesis with correct and ethical interpretation of the chosen topic. A gap in knowledge is correctly identified. Discipline specific terms are described.
- The research aim and question/s clearly and correctly identifies a Participant (or Population or Problem), an Intervention, plus or minus a Comparison and a proposed Outcome using the PICO formula. The aim is Feasible (answerable), Interesting, Novel, Ethical and Relevant (FINER criteria), describes the purpose or motivation of the work and relates to the literature review, title and keywords.
- The study design and methodology can answer the aim, are operational in nature, and clearly and correctly explained.
- Risk level statement is correct and correlates with the project risk.
- Ethics Checklist is completed fully and correctly and checklist is embedded in the assessment 1 word document.
- Three full-text relevant and up-to-date articles are submitted as PDF files, and are uploaded in addition to the word document submission.
- Referenced in Vancouver style with in-text references and reference list relevant, correct, complete and accurate.
- Sustained academic voice written in a scholarly style with appropriate plain English research language used. Written style is culturally and ethically aware.
- Correct spelling and grammar.
- Within the word limit to demonstrate concise clear scientific communication.

A marking rubric is available to students on the unit Moodle site.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

Please submit research proposal as a word document .doc or .docx

Learning Outcomes Assessed

- Formulate a research question and specific hypotheses
- Search, analyse and critically appraise data or textual information
- Apply suitable bioethical principles to the proposal.

2 Written Assessment 2-Course Work Ethics Application

Assessment Type

Written Assessment

Task Description

In assessment 2 you will complete the CQU Coursework Ethics Application Form which is posted on the Moodle site. This is an authentic form of assessment as you will be able to submit your research proposal to the CQU Office of Research for ethics approval if you wish to undertake and complete the research project. Your project should be developed, designed and communicated at a level where there is potential for an academic publication to be produced.

The length of your research proposal will be **1800 words** \pm 10% (some of these sections involve ticking a "Yes/No" box). The word count excludes the researchers' information, layperson description of 250 words, reference list, Participant Information Sheet (PIS) and Consent Form, and any other necessary relevant attachments (for example online survey, interview questions, external approval documents). Assessment 2 scaffolds on assessment 1 and will demonstrate correct and clear progression of work through all components of the ethics application.

The content of the proposal will include:

1. Project title and at least four (4) (maximum 6-7) keywords
2. Researcher information and data collection dates
3. Lay person description (250 words)
4. Background and literature review, research aim/s and significance of project
5. Data collection methods
6. Study design and research plan (methodology)
7. Justification of research design by advising how the data will be analysed (proposed statistical analysis) and by providing a proposed sample size and details of statistical power of the sample size
8. Risks (ethical considerations)
9. Location of research
10. Funding and finance
11. Recruitment of participants
12. Consent
13. Information protection
14. Dissemination of results
15. References (Vancouver style)
16. Appendices (PIS and Consent Form-compulsory), any other relevant attachments if applicable (for example online survey, interview questions, external approval forms).

Further detailed information on how to complete this task is provided to you throughout this unit and under the assessment tab in the unit Moodle site.

Please note:

- The CQU Coursework Ethics Application Form is used for *low risk* ethics applications.
- After completion of this assessment task, post submission for this unit, the Ethics Application may or may not be submitted to the CQU Ethics Committee.
- Submission to the Ethics Committee is dependent on whether you will be doing the research project or not. If you wish to complete your research project for MEDS21006 you will need to submit your ethics application to the Ethics Committee for approval prior to doing the data collection for your research.
- If your research proposal is considered *high risk* and you wish to perform the research, before you undertake your research you will need to complete a Human Research Ethics Application (HREA) <https://hrea.gov.au/> which then goes before a full Human Research Ethics Committee (HREC).

Assessment Due Date

Week 12 Friday (2 June 2023) 4:00 pm AEST

Online submission via the unit Moodle site

Return Date to Students

Return will be at or after 16/06/2023 due to moderation of multiple markers

Weighting

70%

Minimum mark or grade

50%

Assessment Criteria

The criteria to receive a pass are as follows:

- The title should be clear and concise, reflect the topic and engage the reader.
- Keywords should correctly and adequately reflect the topic.
- Lay person description clearly and correctly states the aim and explains the research project, is brief (maximum 250 words) and avoids technical jargon.
- Concise relevant literature review which correctly and ethically synthesises the literature and provides the background to the research and methodology. Review uses relevant up-to-date literature from peer reviewed journals which are correctly cited as evidence. States a clear, concise and related research aim and questions which use the PICO formula correctly and appropriately. Significance of project clearly, correctly and concisely stated. Discipline specific terms are described.
- Study design and research plan (methodology) are clearly and correctly stated, correctly align with and can answer the aim.
- Justification of research design clearly and correctly stated and align with the research and aim.
- Ethical considerations including risks of proposed research such as harm, discomfort and inconvenience, recruitment of participants, consent, information protection and dissemination of results are addressed correctly and appropriately.
- All sections of the Coursework Ethics Application are answered correctly and appropriately and each section addresses the relevance to the overarching aim/research question.
- Participant Information Sheet and Consent Form are written at an appropriate level for participants, align with the aim of the project and are included with the assessment submission. Other relevant documentation are included.
- Referenced in Vancouver style with in-text references and reference list relevant, correct, complete and accurate.
- Sustained academic voice written in a scholarly style with appropriate plain English research language used. Written style is culturally and ethically aware.
- Correct spelling and grammar.
- Within the word limit to demonstrate concise clear scientific communication.
- Demonstrates clear progression and further refinement of work through all components of the ethics application, demonstrating progression of work from assessment 1 to assessment 2.

A marking rubric is available to students on the unit Moodle site.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

Please submit as a word document .doc or .docx

Learning Outcomes Assessed

- Formulate a research question and specific hypotheses
- Search, analyse and critically appraise data or textual information
- Apply suitable bioethical principles to the proposal.

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem