



# MEDS21003 *Medical Science Research Project 1*

## Term 1 - 2021

Profile information current as at 06/05/2024 05:33 am

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: 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 - 2021

- 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 Have Your Say

##### **Feedback**

Students liked regular communication with and feedback from their assigned mentors before submission of their assignments.

##### **Recommendation**

Continue alignment of mentors to students and feedback on assignments before submission.

#### Feedback from Have Your Say

##### **Feedback**

Students liked prompt and regular responses to their queries using email, Q&A and zoom tutorials.

##### **Recommendation**

Continue prompt communication with students via email, Q&A and zoom tutorials.

#### Feedback from Have Your Say

##### **Feedback**

The majority of students liked the content and layout of the unit Moodle site which they found easy to navigate.

##### **Recommendation**

Moodle site layout should be continued in its current format, to allow ease of navigation.

#### Feedback from Have Your Say

##### **Feedback**

Students would like to see the assignment's additional information forms requirements reflect real world ethics applications.

##### **Recommendation**

Consider adjusting assessment requirements around submission of additional forms. Explanation of how real-world ethics applications require additional forms and why could be further explained.

## 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			

### Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Written Assessment - 30%								
2 - Written Assessment - 70%								

## Textbooks and Resources

### Textbooks

MEDS21003

#### Prescribed

#### **Research Methodology A Step-by-Step Guide for Beginners**

Edition: 5th (2019)

Authors: Ranjit Kumar

Sage Publications

Samsung Hub , Singapore , Republic of Singapore

ISBN: 978-1-5264-4989-4

Binding: Paperback

[View textbooks at the CQUniversity Bookshop](#)

### 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](mailto:a.quinton@cqu.edu.au)

## Schedule

### Week 1 - 08 Mar 2021

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

### Week 2 - 15 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
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Finding a research topic and question

- 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 3 and 4

Lecture/s

Lecture notes

## Week 3 - 22 Mar 2021

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

## Week 4 - 29 Mar 2021

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

## Week 5 - 05 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Selecting a method of data collection		
1. Primary sources		Tutorial Tuesday night 7.00-8.00pm AEST
<ul style="list-style-type: none"> <li>• Observation</li> <li>• Interview</li> <li>• Questionnaires</li> </ul>		
2. Secondary sources		
3. Collecting data using attitudinal scales		
How to write a methods section		
	<b>Chapters 9 and 10</b> Lecture/s Lecture notes	<b>Written Assessment 1-Draft of Research Proposal</b> Due: Week 5 Friday (9 Apr 2021) 4:00 pm AEST

## Vacation Week - 12 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Break week		

## Week 6 - 19 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Selecting a sample		
<ul style="list-style-type: none"> <li>• Validity</li> <li>• Reliability</li> <li>• Bias</li> <li>• Time frame</li> <li>• Budget constraints</li> </ul>	<b>Chapters 11 and 12</b> Lecture/s Lecture notes	

## Week 7 - 26 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Basic statistics 2 for research proposals		
<ul style="list-style-type: none"> <li>• Parametric statistics</li> <li>• Non-parametric statistics</li> <li>• Sensitivity and specificity</li> <li>• Risk</li> <li>• Qualitative data analysis</li> </ul>	Lecture/s Lecture notes	Tutorial Tuesday night 7.00-8.00pm AEST

**Week 8 - 03 May 2021**

Module/Topic	Chapter	Events and Submissions/Topic
Ethics <ul style="list-style-type: none"> <li>• Bioethical issues</li> <li>• Participant information sheet</li> <li>• Consent form</li> <li>• Risk appraisal</li> <li>• Recruitment</li> <li>• Information protection</li> <li>• Dissemination of results</li> </ul>	<b>Chapter 14</b> Lecture/s Lecture notes	

**Week 9 - 10 May 2021**

Module/Topic	Chapter	Events and Submissions/Topic
Ethics <ul style="list-style-type: none"> <li>• Guidelines for ethical conduct in Aboriginal and Torres Strait Island Peoples health research</li> </ul>	Lecture/s Lecture notes	Tutorial Tuesday night 7.00-8.00pm

**Week 10 - 17 May 2021**

Module/Topic	Chapter	Events and Submissions/Topic
Communicating the results <ul style="list-style-type: none"> <li>• Developing and using tables</li> <li>• Answering the clinical question</li> </ul>	<b>Chapter 13 and 16</b>	

**Week 11 - 24 May 2021**

Module/Topic	Chapter	Events and Submissions/Topic
Review of your work <ul style="list-style-type: none"> <li>• Elements of a good research proposal</li> <li>• Proof reading your work</li> <li>• The importance of the final review</li> </ul>		Tutorial Tuesday night 7.00-8.00pm

**Week 12 - 31 May 2021**

Module/Topic	Chapter	Events and Submissions/Topic
Assessment 2 due <ul style="list-style-type: none"> <li>• Time to finish your assessment</li> </ul>		<b>Written Assessment 2-Course Work Ethics Application</b> Due: Week 12 Friday (4 June 2021) 4:00 pm AEST

**Review/Exam Week - 07 Jun 2021**

Module/Topic	Chapter	Events and Submissions/Topic

**Exam Week - 14 Jun 2021**

Module/Topic	Chapter	Events and Submissions/Topic

## Term Specific Information

The unit coordinator for MEDS21003 is Dr Ann Quinton. Ann is based on the Sydney campus. The best way to contact Ann is via email at [a.quinton@cqu.edu.au](mailto:a.quinton@cqu.edu.au)

It is important to check your student email regularly as updates about the unit will be sent from the unit coordinator via email and via the Q&A forum on the Moodle site. Please ensure all email correspondence is done via your CQU student email.

Ann's phone number is 02 9324 5008 however she is often in the sonography labs so an email is the best way to organise a time to speak.

This is a 6 credit point unit which requires you to allocate around 12 hours per week for study. The unit is graded. There are two assessment items, a draft of a research proposal worth 30%. Feedback will be provided on assessment 1 to enable you to produce assessment 2 which is completing the CQU Coursework Ethics application. Assessment 2 is worth 70%.

Tutorials via Zoom will be offered in the evening to enable students on clinical placement or working to attend. You will be able to ask questions, gain feedback and join in discussions on how to best complete the assessment tasks. This unit will make regular use of the required text: Research Methodology, a step-by-step guide for beginners (5th Ed.) by Ranjit Kumar; Sage Publications.

## Assessment Tasks

### 1 Written Assessment 1-Draft of Research Proposal

#### **Assessment Type**

Written Assessment

#### **Task Description**

The first written assessment is a draft of your final research proposal. As a draft the main aims are for you to learn how to search and review the literature, start thinking about your research topic and research aim/question, how you will go about answering your research question/s (methodology), and start thinking about the risk level of your research project.

This draft will provide you with the opportunity for feedback so you can complete the CQU Course Work Ethics

Application for assessment 2. A research proposal is a detailed written outline of planned research that allows you, the researcher, to clarify and organise your thoughts on your research. It includes a title and key words, a brief literature review (as compared to a detailed literature review which would be required for a research paper or thesis) that synthesises and critiques the literature, allowing you to identify a gap in knowledge that you wish to research. This is followed by the study aims (research question/s) and hypothesis and a project plan which includes the study design, research methodology, selection criteria, data collection information, sample size calculation, statistical analysis and ethical considerations that will allow you to answer your research aim.

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).
3. Literature review. Introduce and outline the area of research you wish to study by synthesising existing up to date and relevant literature. A synthesis of the literature involves you bringing together different views, ideas and information about a particular topic and then providing an original interpretation and critique of that topic. A synthesis is NOT a summary of each article you review. This synthesis will allow you to establish the need for further research and describe any existing gaps in knowledge. The synthesis of the literature will help inform your research question and methodology. You will also use the literature review to explain any discipline specific terms and ideas.
4. Research aim/question using the Participant (or Population or Problem), Intervention, Comparison, Outcome (PICO) formula.



5. The study design and research 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), inserted into your assessment 1 word document.
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.
9. Three (3) of the most relevant full text articles uploaded separately onto Moodle.

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

### **Assessment Due Date**

Week 5 Friday (9 Apr 2021) 4:00 pm AEST

Online submission via the unit Moodle site.

### **Return Date to Students**

Week 6 Friday (23 Apr 2021)

Return will be at or after 23/04/2021 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 interpretation of the chosen topic. A gap in knowledge is correctly identified. Discipline specific terms are described.
- The research aim/question clearly and correctly identifies a Participant (or Population or Problem) or issue of interest, an intervention, plus or minus a comparison and a proposed outcome. The aim 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, which are submitted as PDF files, are uploaded in addition to the word document submission.
- In-text referencing is correctly and appropriately used with an accurate complete reference list supplied using Vancouver referencing style.
- Sustained academic voice and appropriate plain English research language is used.
- Correct spelling and grammar.
- The word limit is adhered to.

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.

### **Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management

- Ethical and Professional Responsibility
- Leadership

## 2 Written Assessment 2-Course Work Ethics Application

### Assessment Type

Written Assessment

### Task Description

In this assessment you will complete the CQU Coursework Ethics Application Form (Version 3). 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 (eg online survey, interview questions, external approval documents).

The content of the proposal will include:

1. Project title and at least four (4) key words
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 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.

The CQU Coursework Ethics Application Form (Version 3) 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 is dependent on whether you will be doing the research project or not. Please note: 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 (4 June 2021) 4:00 pm AEST  
Online submission via the unit Moodle site

### Return Date to Students

Return will be at or after 18/06/2021 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 explains the research project, states the aim, is brief (maximum 250 words) and avoids technical jargon.
- Concise relevant literature review which synthesises the literature and provides the background to the research and methodology. Uses relevant up-to-date literature from peer reviewed journals which are cited as evidence. States a clear, concise and related research aim/s which use the PICO formula. Significance of project clearly and concisely stated. Discipline specific terms are described.
- Study design and research plan (methodology) are clearly and correctly stated and align with the research.
- Justification of research design clearly and correctly stated and align with the research.
- 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.
- Correct Participant Information Sheet and Consent Form are written at an appropriate level and included with assessment. Other relevant documentation are included.
- Referenced in Vancouver style with in-text references and reference list complete and accurate.
- Sustained academic voice and appropriate plain English research language used.
- Correct spelling and grammar.
- Within the word limit to demonstrate you can communicate concisely and clearly.

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.

**Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership

## 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