



# MEDS14001 *Medical Science Research 1*

## Term 1 - 2021

Profile information current as at 26/04/2024 03:18 am

All details in this unit profile for MEDS14001 have been officially approved by CQU University 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

Medical Science Research 1 will provide you with training in research. You are required to independently undertake an investigation of a research question in an area of medical science. This research question will be fully investigated and reported in written scholarly form in Medical Science Research 2. The research question will be of significance to an area of medical science related to your course of enrolment and will be undertaken under the principal supervision of a member of that course's staff.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 4*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Prerequisite Successful completion of : 48 units of credit of Level One Units AND 84 units of credit of Level Two or Level Three Units AND Enrolment in CL10 Bachelor of Medical Laboratory Science (Honours)

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 Undergraduate 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 Reflection by academic team

##### Feedback

Students appreciated the one-on-one supervision model in this unit.

##### Recommendation

Continue to support students through allocation of individual Research Supervisors.

## 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 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 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



### 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 - Communication	•	•	•
2 - Problem Solving	•	•	•
3 - Critical Thinking	•	•	•

Graduate Attributes	Learning Outcomes		
	1	2	3
4 - Information Literacy	•	•	•
5 - Team Work			
6 - Information Technology Competence	•	•	•
7 - Cross Cultural Competence			•
8 - Ethical practice			•
9 - Social Innovation			
10 - 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	9	10
1 - Written Assessment - 30%	•	•	•	•		•	•	•		
2 - Written Assessment - 70%	•	•	•	•		•	•	•		

## Textbooks and Resources

### Textbooks

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#### Prescribed

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

Edition: 5th (2019)

Authors: Ranjit Kumar

SAGE Publishing

London , UK

ISBN: 9781526449900

Binding: Paperback

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#### Supplementary

##### **Introduction to Research Methods. A Hands-On Approach**

Edition: 1st (2017)

Authors: Bora Pajo

SAGE Publishing

London , UK

ISBN: 9781483386959

Binding: Paperback

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#### Supplementary

##### **The Research Experience. Planning, Conducting, and Reporting Research**

Edition: 1st (2017)

Authors: Ann Sloan Devlin

SAGE Publishing

London , UK

ISBN: 9781506325125

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 styles below:**

- [Harvard \(author-date\)](#)
- [Vancouver](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Jason Steel** Unit Coordinator

[j.steel@cqu.edu.au](mailto:j.steel@cqu.edu.au)

## Schedule

### Week 1 - 08 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
<p>Welcome to the unit. Introduction to the Unit Coordinator.</p> <p>Identification of available research areas and project supervisors involved.</p> <p>Review of research basics and ethics:</p> <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 medical sciences</li> <li>• Bioethical issues</li> <li>• Guidelines for ethical conduct in medical sciences research</li> </ul>	<p>Research Methodology, A Step-by-Step Guide for Beginners. 5th Ed. Kumar, R. Sage Publications: London.</p> <p>Chapter 1: Research: a way of thinking</p> <p>Chapter 14: Considering ethical issues in data collection</p>	<p>Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.</p>

### Week 2 - 15 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
<p>Finding a research topic and question:</p> <ul style="list-style-type: none"> <li>• Identify a relevant research topic/focus</li> <li>• Formulating a research question/problem</li> <li>• Planning the research</li> <li>• Reviewing and writing a literature review</li> </ul>	<p>Chapter 2: The research process: a quick glance</p> <p>Chapter 3: Reviewing the literature</p> <p>Chapter 4: Formulating a research problem</p>	<p>Contact your proposed Principal Supervisor (in person or via e-mail). Students should be actively engaged in their research project throughout this unit. Project proposals should be prepared before the end of the term to allow for sufficient time to receive feedback and to write the final report, including a research ethics application.</p>

### Week 3 - 22 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
<p>Determining your study design and basic statistics 1:</p> <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>	<p>Chapter 5: Identifying variables</p> <p>Chapter 6: Constructing hypotheses</p> <p>Chapter 7: The research design</p> <p>Chapter 13: Writing a research proposal</p>	<p>Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.</p>

### Week 4 - 29 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
<p>Selecting a study design:</p> <ul style="list-style-type: none"> <li>• Quantitative research</li> <li>• Qualitative research</li> <li>• Mixed methods</li> <li>• Sampling</li> </ul>	<p>Chapter 8: Selecting a study design</p>	<p>Confirm arrangements with your Principal Supervisor (in person or via Zoom).</p>

### Week 5 - 05 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
<p>Selecting a method of data collection:</p> <ol style="list-style-type: none"> <li>1. Primary sources <ul style="list-style-type: none"> <li>• Observation</li> <li>• Interview</li> <li>• Questionnaires</li> </ul> </li> <li>2. Secondary sources</li> <li>3. Collecting data using attitudinal scales</li> </ol>	<p>Chapter 9: Selecting a method of data collection</p> <p>Chapter 10: Collecting data using attitudinal scales</p>	<p>Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.</p>

### Vacation Week - 12 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
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No formal teaching - independent study/supervised research.

Please take the opportunity to review your progress so far.

### 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>	Chapter 11: Establishing the validity and reliability of a research instrument Chapter 12: Selecting a sample	Arrange to meet with your Principal Supervisor (in person or via Zoom).

### 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>		Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

### Week 8 - 03 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Ethics: Participant information sheet <ul style="list-style-type: none"><li>• Consent form</li><li>• Risk appraisal</li><li>• Recruitment</li><li>• Information protection</li></ul> Dissemination of results		Arrange to meet with your Principal Supervisor (in person or via Zoom).  <b>Written Assessment 1 - Literature Review</b> Due: Week 8 Friday (7 May 2021) 5:00 pm AEST

### Week 9 - 10 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>	Chapter 17: Writing a research report	Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

### Week 10 - 17 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Work on your research proposal.		Arrange to meet with your Principal Supervisor (in person or via Zoom).

### Week 11 - 24 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Finalise writing your research proposal.		Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

### Week 12 - 31 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Final edits to research proposal and submission.		Arrange to meet with your Principal Supervisor (in person or via Zoom).  <b>Written Assessment 2 - Research Proposal</b> Due: Week 12 Friday (4 June 2021) 5:00 pm AEST

### Review/Exam Week - 07 Jun 2021

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

The Unit Coordinator is Dr Jason Steel. The best way to contact Jason is via e-mail at: j.steel@cqu.edu.au  
It is important to check your student e-mail regularly as updates about the unit will be sent from the Unit Coordinator by e-mail. E-mail is also the easiest way for you to contact your Principal Supervisor.

This unit is a 6-credit point unit which requires you to allocate around 12 hours per week towards it. The unit is graded. There are two assessment items, a literature review worth 30% for which feedback will be provided to enable you to produce the final research proposal that is worth 70%.

At the start of term you will be matched to a research team and introduced to a researcher who will act as your research mentor. They will guide you through the process of developing your project and provide formative feedback and support. Regular tutorial times are scheduled for you to meet with your mentor to discuss the progress of your research proposal and ethics application. You will be able to ask specific questions, gain feedback and discuss 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., 2019) by Ranjit Kumar (Sage Publications).

## Assessment Tasks

### 1 Written Assessment 1 – Literature Review

#### **Assessment Type**

Written Assessment

#### **Task Description**

In research, comprehensively reviewing the current literature relating to your studies is important in that it allows you to understand where your proposed research sits in the context of past work and increases your knowledge on the area you are proposing to work in. The literature review is often the first thing that is done by a research team after you get that initial idea for a research project.

In this first assessment you are asked to comprehensively review the literature surrounding your research topic. This is to be written with your research team and submitted as a single document. The contribution of each team member is to be clearly defined. Each team member will need to contribute 750-1000 words towards the review and participate in the editing of the final review (generation of art work, proof reading, etc.).

The content of the literature review should be discussed with your research mentor and the layout agreed upon. Further detailed information on how to complete the task is provided to you under the assessment tab in Moodle.

#### **Assessment Due Date**

Week 8 Friday (7 May 2021) 5:00 pm AEST

#### **Return Date to Students**

Within 2 weeks of assessment submission

#### **Weighting**

30%

#### **Assessment Criteria**

You will be assessed on the overall literature review submitted by the research team as well as your individual contribution to literature review. Any student who does not contribute to the team's literature review will not be awarded grades for this assignment.

Overall literature review: 20 marks

Individual contribution: 10 marks

A detailed marking rubric will be available on the Moodle site for this unit. This includes criteria to help identify your strengths and weaknesses. Specific feedback will be provided by your Principal Supervisor. General feedback and suggestions to improve performance will also be provided. If you require additional feedback for this task, you should contact the Unit Coordinator.

#### **Referencing Style**



- [Harvard \(author-date\)](#)
- [Vancouver](#)

### **Submission**

Online

### **Submission Instructions**

Online submission via the unit Moodle site. Please submit as a PDF.

### **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**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

## **2 Written Assessment 2 – Research Proposal**

### **Assessment Type**

Written Assessment

### **Task Description**

One of the key requirements for starting a new research project is the generation of a detailed research proposal prior to the work commencing. This provides a schema for the study and is needed by stakeholders in the work, including granting bodies, universities, and industry. The research proposal is often written by the research team rather than a single individual. The information within the research proposal also helps with other applications needed for research such as ethics applications.

In this assessment task, you will be required to develop a detailed research proposal and ethics application. This is to be written with your research team and submitted as a single document for the research proposal and a single document for the ethics application. The contribution of each team member is to be clearly defined.

The content of the research proposal should be discussed with your research mentor and the layout agreed upon but will usually include:

Proposed title.

Keywords (3-5).

Background. You will write the draft proposal which will include an outline of the background to your research and how your reading of these articles has established the need for further research. The literature should also help inform your research question and methodology.

Research question/aim. What is your hypothesis?

Research design and Methodology: How you will go about answering your research question.

Timeline. Generate a Gantt chart describing how you will complete your study in term 2, including collection of data, analysis and writing the study up.

Significance. Describe the significance of the study.

Reference list.

For the ethics application you will be completing a CQU ethics application form.

More detail on this assessment, including the ethics form, will be provided on the Moodle site.

### **Assessment Due Date**

Week 12 Friday (4 June 2021) 5:00 pm AEST

### **Return Date to Students**

Within 2 weeks of assessment submission

### **Weighting**

70%

### **Minimum mark or grade**

50%

## Assessment Criteria

The criteria to receive a pass are as follows:

- The research title should be clear, concise and reflect the topic. Keywords should reflect the topic.
- Lay person description is relevant, brief and avoids technical jargon.
- Research aim/s, significance, background to research, literature review and methodology are relevant with up-to-date literature from peer reviewed journals cited as evidence.
- Ethical considerations including risks, recruitment of participants, consent, information protection and dissemination of results are addressed and discussed.
- All sections of the Coursework Ethics Application are answered.
- Appropriate Participant Information Sheet, Consent Forms and other relevant documentation are included.
- In-text referencing is correctly and appropriately used and reference list supplied.
- Sustained academic voice and appropriate plain English research language used.
- Correct spelling and grammar.
- The word limit is adhered to.

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

Grades for this assessment:

Part A Research Proposal: 50 marks (30 marks team, 20 marks individual)

Part B Ethics Application: 20 Marks (10 marks team, 10 marks individual)

Note: no marks for team effort will be awarded for any student who does not sufficiently participate in the generation of the assessment.

## Referencing Style

- [Harvard \(author-date\)](#)
- [Vancouver](#)

## Submission

Online

### Submission Instructions

Online submission via the unit Moodle site. Please submit as a PDF.

## 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

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

## 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