



MEDS14001 *Medical Science Research 1*

Term 1 - 2020

Profile information current as at 30/04/2024 12:11 am

All details in this unit profile for MEDS14001 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

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 - 2020

- 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](#).

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	•	•	•
4 - Information Literacy	•	•	•
5 - Team Work			
6 - Information Technology Competence	•	•	•
7 - Cross Cultural Competence			•
8 - Ethical practice			•
9 - Social Innovation			

Graduate Attributes**Learning Outcomes****1****2****3****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

MEDS14001

Prescribed

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

Edition: 5th (2019)

Authors: Ranjit Kumar

SAGE Publishing

London , UK

ISBN: 9781526449900

Binding: Paperback

MEDS14001

Supplementary

Introduction to Research Methods. A Hands-On Approach

Edition: 1st (2017)

Authors: Bora Pajo

SAGE Publishing

London , UK

ISBN: 9781483386959

Binding: Paperback

MEDS14001

Supplementary

The Research Experience. Planning, Conducting, and Reporting Research

Edition: 1st (2017)

Authors: Ann Sloan Devlin

SAGE Publishing

London , UK

ISBN: 9781506325125

Binding: Paperback

Additional Textbook Information

Copies are available for purchase at the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code)

[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

Andrew Taylor-Robinson Unit Coordinator

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Wayne Pederick Unit Coordinator

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Paul Neilsen Unit Coordinator

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Jordon Irwin Unit Coordinator

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Schedule

Week 1 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Welcome to the unit. Introduction to the Unit Coordinator. Identification of available research areas and project supervisors involved. Review of research basics and ethics: <ul style="list-style-type: none">• Definition of research• Research paradigms• Research process• Rationale for conducting research in the medical sciences• Bioethical issues• Guidelines for ethical conduct in medical sciences research	Research Methodology, A Step-by-Step Guide for Beginners. 5th Ed. Kumar, R. Sage Publications: London. Chapter 1: Research: a way of thinking Chapter 14: Considering ethical issues in data collection	Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Finding a research topic and question: <ul style="list-style-type: none">• Identify a relevant research topic/focus• Formulating a research question/problem• Planning the research• Reviewing and writing a literature review	Chapter 2: The research process: a quick glance Chapter 3: Reviewing the literature Chapter 4: Formulating a research problem	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.

Week 3 - 23 Mar 2020

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	Chapter 5: Identifying variables Chapter 6: Constructing hypotheses Chapter 7: The research design Chapter 13: Writing a research proposal	Tutorial with Unit Coordinator. Details will be provided on the unit Moodle site.

Week 4 - 30 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Selecting a study design:

- Quantitative research
- Qualitative research
- Mixed methods
- Sampling

Chapter 8: Selecting a study design

Confirm arrangements with your Principal Supervisor (in person or via Zoom).

Progress Report 1 (optional, non-graded)

Due: Week 4 Friday (03 Apr 2020)
5:00 pm AEST.

Week 5 - 06 Apr 2020

Module/Topic

Chapter

Events and Submissions/Topic

Selecting a method of data collection:

1. Primary sources
 - Observation
 - Interview
 - Questionnaires
2. Secondary sources
3. Collecting data using attitudinal scales

Chapter 9: Selecting a method of data collection
Chapter 10: Collecting data using attitudinal scales

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

Vacation Week - 13 Apr 2020

Module/Topic

Chapter

Events and Submissions/Topic

No formal teaching - independent study/supervised research.

Please take the opportunity to review your progress so far.

Week 6 - 20 Apr 2020

Module/Topic

Chapter

Events and Submissions/Topic

Selecting a sample:

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

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).

Written Assessment 1 - Draft of Research Proposal

Due: Week 6 Monday (20 Apr 2020)
11:00 pm AEST.

Week 7 - 27 Apr 2020

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

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

Progress Report 2 (optional, non-graded)

Due: Week 7 Friday (01 May 2020)
5:00 pm AEST.

Week 8 - 04 May 2020

Module/Topic

Chapter

Events and Submissions/Topic

Ethics:

Participant information sheet

- Consent form
 - Risk appraisal
 - Recruitment
 - Information protection
- Dissemination of results

Arrange to meet with your Principal Supervisor (in person or via Zoom).

Week 9 - 11 May 2020

Module/Topic

Chapter

Events and Submissions/Topic

Communicating the results:

- Developing and using tables
- Answering the clinical question

Chapter 17: Writing a research report

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

Week 10 - 18 May 2020

Module/Topic

Chapter

Events and Submissions/Topic

Finalise your research proposal.

Arrange to meet with your Principal Supervisor (in person or via Zoom).

Week 11 - 25 May 2020

Module/Topic

Chapter

Events and Submissions/Topic

Time to finish writing your research proposal.
Finalise your research ethics application.

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

Progress Report 3 (optional, non-graded)

Due: Week 11 Friday (29 May 2020)
5:00 pm AEST.

Week 12 - 01 Jun 2020

Module/Topic

Chapter

Events and Submissions/Topic

Time to finish writing your research ethics application.

Arrange to meet with your Principal Supervisor (in person or via Zoom).

Written Assessment 2 - Research Proposal, including a Research Ethics Application

Due: Week 12 Monday (01 Jun 2020)
11:00 pm AEST.

Term Specific Information

The Unit Coordinator is Professor Andrew Taylor-Robinson (Brisbane campus). The best way to contact Andrew is via e-mail at: a.taylor-robinson@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 draft proposal worth 30% for which feedback will be provided to enable you to produce the final research proposal that is worth 70%. In addition, you may submit each of three progress reports (optional, non-graded), which provide an opportunity to monitor your advancement and to raise any issues that you may have.

At the start of term you will be matched to a research project and introduced to an academic staff member who will act as your Principal Supervisor. 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 Principal Supervisor 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 - 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, your research question, how you will go about answering your research question and start thinking about the risk level of your research project. The draft will also provide you with the opportunity to gain feedback so you can complete the Research Ethics Application (as part of 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 the study aims (research question/s) and hypothesis, a brief literature review (as compared to a detailed literature review which would be required for the research paper or thesis) that critiques the literature and allows you to identify a gap in knowledge to research, project plan which considers research methodology, study design, selection criteria, data collection, statistical analysis and ethical

considerations.

The content of the draft proposal is 1,000 words \pm 10% (excludes references, the Ethics Checklist and the full text articles (the full text articles will be uploaded separately)).

The content of the proposal will include:

1. Proposed title (15 words);
2. Keywords (3-5);
3. 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;
4. Research question/aim;
5. How you will go about answering your research question. This means writing an outline of the research design and plan (methodology);
6. Fill out and insert the Ethics Checklist (which can be found on the unit Moodle site) into your word document and use this to decide the risk level of your application. Include a section in your research design and plan (one to three sentences) about whether the proposal is low or high risk and why;
7. Insert your reference list into the word document;
8. Upload at least 3-5 relevant full text articles (appendix).

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

Assessment Due Date

Week 6 Monday (20 Apr 2020) 11:00 pm AEST

Return Date to Students

Week 8 Tuesday (05 May 2020)

Weighting

30%

Assessment Criteria

The assessment criteria are as follows:

- The title should be clear and concise, reflect the topic and engage the reader;
- Keywords should reflect the topic;
- The outline of the background to your research and need for further research are clearly discussed;
- The research question clearly identifies a population or problem or issue of interest and a proposed outcome or measure and relates to the title;
- An outline of the research design and plan is relevant to the title and aim, operational in nature and clearly explained, and establishes the need for research in the chosen area;
- Consideration of risk level is clearly stated in the research plan;
- Ethics Checklist is completed and document uploaded;
- 3-5 full-text up-to-date relevant PDF file articles are uploaded;
- 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. 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

- [Vancouver](#)

Submission

Online

Submission Instructions

Online submission via the unit Moodle site. 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

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

2 Written Assessment 2 – Research Proposal, including a Research Ethics Application

Assessment Type

Written Assessment

Task Description

For 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 do the research project. Your project should be 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 reference list, Participant Information Sheet (PIS) and Consent Form, and any other necessary relevant attachments (e.g. online survey, interview questions, external approval).

The content of the proposal will include:

1. Project title (15 words) and key words (3-5);
2. Data collection dates;
3. Lay person description (250 words);
4. Research aim/s and significance, includes background and literature review;
5. Data collection methods;
6. Methods;
7. Justification of research design (includes data analysis, sample size and statistical power if appropriate);
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).

A marking rubric is available to students on the unit Moodle site. This includes criteria to help identify your weaknesses and strengths. 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.

If your research proposal is considered high risk, 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). This process will take considerably longer to gain ethics approval. The information that you compile for the low risk research proposal assignment will be able to be used in the HREA high risk application but this will require further details. It is suggested that you speak to your discipline-specific Principal Supervisor if you need to go down this path to complete your research.

Assessment Due Date

Week 12 Monday (01 Jun 2020) 11:00 pm AEST

Return Date to Students

Exam Week Tuesday (16 Jun 2020)

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.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

Online submission via the unit Moodle site. 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

- 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