MEDS21003 *Medical Science Research Project 1*
Term 1 - 2024

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 - 2024

- 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 SUTE Unit Comments- T1, 2023

Feedback

Students would like discipline specific markers to help with feedback.

Recommendation

Continue to try and source discipline specific markers for each stream of students enrolled in this unit.

Feedback from SUTE Unit Comments- T1, 2023

Feedback

Students enjoyed choosing their own topic to research.

Recommendation

Continue the practice of allowing and supporting students in their choice of topic.

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

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 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Review of research basics • 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)	Lecture/s Lecture notes	Zoom tutorial Tuesday night 7.00-8.00pm AEST

Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
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	Lecture/s Lecture notes	

Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Determining your study design and basic statistics 1 • Variables • Measurement scales • Constructing hypotheses • Type 1 and 2 errors • Sample size	Lecture/s Lecture notes	Tutorial Tuesday night 7.00-8.00pm AEST

Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Selecting a study design • Quantitative research • Qualitative research • Mixed methods • Sampling	Lecture/s Lecture notes	

Week 5 - 01 Apr 2024

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
How to write a methods section

Lecture/s
Lecture notes

Tutorial Tuesday night
7.00-8.00pm AEST

Assessment 1-Research plan Due:
Week 5 Friday (5 Apr 2024) 4:00 pm
AEST

Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Break week		

Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Selecting a sample • Validity • Reliability • Bias • Time frame • Budget constraints	Lecture/s Lecture notes	

Week 7 - 22 Apr 2024

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 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Ethics • Bioethical issues • Participant information sheet • Consent form • Risk appraisal • Recruitment • Information protection • Dissemination of results	Lecture/s Lecture notes	

Week 9 - 06 May 2024

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 - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Communicating the results • Developing and using tables • Answering the clinical question	Lectures	

Week 11 - 20 May 2024

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 - 27 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Time to finish your assessment		**Assessment 2-Research proposal** Due: Week 12 Friday (31 May 2024) 4:00 pm AEST

Review/Exam Week - 03 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 10 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic

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 2024. 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.

This unit is designed to teach you foundational skills and knowledge (as per the unit profile overview). This knowledge may ultimately be used by you in your clinical practice to answer a problem you may encounter in the future, or to help you instigate or collaborate in a research project. Due to changes in the MEDS21003 assessment items in 2024, while you may be able to study a similar topic in MEDS21006, due to time constraints it is unlikely you will have time to fully research and report your idea from your work done in MEDS21003 for the assessment items in MEDS21006.

Assessment Tasks

1 Assessment 1-Research plan

Assessment Type
Written Assessment

Task Description

This assessment requires you to write your research plan (word length **500 ± 10%**) which will scaffold into assessment

2. A research plan 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 proposal will include:

1. An outline of your research idea citing at least two (2) relevant recent peer reviewed articles. This will provide the context for your research idea.
2. Search strategy which includes keywords (minimum 4, maximum 6-7), Boolean operators, limiting years and search engines and database/s used for your search of the literature .
3. Title written as one sentence which will include your keywords.
4. PICO framework: list who your Participants (or Population or Problem) will be, what your Intervention will be, a Comparison if applicable and an Outcome.
5. Research question using the PICO elements and keywords.
6. Research aim using the PICO elements and keywords.
7. Methodology: how you will do the study to collect your data and what research design you will use.
8. A reference list of at least two (2) references using Vancouver referencing style. The references should be recent, current, relevant to the topic and from peer reviewed journals.
9. The two most relevant full text articles selected from the references you have used, 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 Friday (5 Apr 2024) 4:00 pm AEST
Online submission via the unit Moodle site.

Return Date to Students

Return will be at or after 19/04/2024 due to moderation

Weighting
30%

Assessment Criteria

The criteria to receive a Pass are as follows:

- The research idea is simple (preferably low risk), ethical, feasible, relevant to the title, research question, aim and methodology and supported by reference to at least two (2) relevant recent peer reviewed articles.
- Keywords correctly and adequately reflect the topic. Search strategy clearly and correctly outlined.
- The title should be clear and concise, reflect the research question, align with the topic, and engage the reader.
- The PICO elements (Participant (or Population or Problem), Intervention, plus or minus a Comparison, and the proposed Outcome) are listed and relate to the research idea.
- The research question clearly and correctly uses the PICO elements to pose a question that can be answered by the methodology.
- The research aim clearly and correctly identifies a Participant (or Population or Problem), an Intervention, plus or minus a Comparison and a proposed Outcome to detail what the research will potentially achieve.
- The methodology and research design are feasible, can answer the aim, are operational in nature, and ethically, clearly and correctly explained.
- Two (2) full-text relevant and up-to-date articles are submitted as PDF files, and uploaded in addition to the word document submission.
- Referenced in Vancouver style with citations and reference list recent (within the last 10 years or seminal works), 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.
Please be advised the use of Large Language Models (LLMs), a type of artificial intelligence (AI) such as Chat GPT are not supported in this unit. The information provided by LLMs are not necessarily accurate, current information or correctly referenced and are not considered reliable enough to use for academic work. Any use of LLM/AI in your assignments must be acknowledged using the Guidelines for referencing Large Language Models or Artificial Intelligence .

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 Assessment 2-Research proposal

Assessment Type
Written Assessment

Task Description

In this assessment you will search and review the literature and refine your chosen topic to write a research proposal. A

research proposal involves synthesising the literature in the form of a literature review to provide context for your topic.

This will be followed by an aim and research question that can be answered by the research design and methodology you have selected. You will address the risk level of your project.

The length of your research proposal will be **1000 words ± 10%**. The word count excludes the title page, Ethics Checklist and reference list. Assessment 2 scaffolds on assessment 1 and will demonstrate correct and clear progression through all components of your work.

The content of the proposal will include:

1. 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. The review will align with your methodology. Your review will establish the need for further research by describing an existing gap in knowledge. The literature review must be cited intext.
4. Research aim and question 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 2 word document in word format.
7. A risk statement (a short paragraph) about whether the proposal is low or high risk and why. This should include a reflection on the feasibility and ethics of your methodology. 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, 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 this task is provided to you throughout this unit and under the assessment tab in the unit Moodle site.

Assessment Due Date
Week 12 Friday (31 May 2024) 4:00 pm AEST
Online submission via the unit Moodle site

Return Date to Students

Return will be at or after 14/06/2024 due to moderation

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, incorporate your keywords, reflect the research question, align with the topic and engage the reader.
- Keywords should correctly and adequately reflect the topic enabling a search of the literature.
- The literature review is an original synthesis with correct and ethical interpretation of the chosen topic. The review provides apposing views and an ethical interpretation. A gap in knowledge is correctly identified. Discipline specific terms are described.
- The research aim and question 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 ethical and operational in nature, and clearly and correctly explained.
- Risk level statement is correct and aligns with the proposed project risk and includes a reflection on the feasibility. Ethics assessment correlates with the methodology.
- Ethics Checklist is completed fully and correctly, and checklist is embedded in the assessment 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, ethically obtained, 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.
Please be advised the use of Large Language Models (LLMs), a type of artificial intelligence (AI) such as Chat GPT are not supported in this unit. The information provided by LLMs are not necessarily accurate, current information or correctly referenced and are not considered reliable enough to use for academic work. Any use of LLM/AI in your assignments must be acknowledged using the Guidelines for Referencing Large Language Models or Artificial Intelligence.

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