

**MASSEY UNIVERSITY
COLLEGE OF SCIENCES
Paper Outline 2009**

Paper Number and Title: 214.212 Research Methods in the Health Sciences

Credits value: 15

Semester: Two

Campus: Wellington

Mode: Internal

Calendar Prescription: Techniques of health science research which emphasize the systematic process of identification and defining of research problems, formulation of hypotheses, quantitative and qualitative techniques for the collection and analysis of data, and the ethics of research in the field of health. Development of a research proposal.

Pre-requisites: Any 15 credit 100-level BHlthSc Schedule paper.

Restrictions: None

E-Learning Category: N/A

Paper Coordinator: Dr John Ruck, Institute of Food Nutrition and Human Health, Room 3D15, ext 62142, email: J.G.Ruck@massey.ac.nz

Other Contributing Staff: Brian Caughley, Institute of Food, Nutrition and Human Health, Room 3C18f, ext 6455, email: B.P.Caughley@massey.ac.nz Throughout the semester, we will have staff from within the College of Sciences briefly profiling their research activities, focusing in particular on aspects of research design.

Aim: This paper is designed to give you a basic level of understanding of the research process, which will allow you to better understand and critique health, and health science research reports, published articles and reviews, and lay the foundation for Honours and Masters post-graduate study.

Learning Outcomes: On successful completion a student will be able to:

1. Explain the basic principles and process of research.
2. Identify the various types of research used in the health sciences, and select and justify a research method for a specified health related research project.
3. Develop a conceptual and theoretical framework which will form the basis of a literature review on a chosen health related topic.
4. Develop a research proposal which reflects bicultural research partnerships.
5. Develop a research proposal which, with slight adaptation, would meet the requirements of a recognized Research and/or Ethics Committee. That is, contains all the key elements of a sound research proposal.

Assessment: All the outcomes defined above are achieved by the development of a stand alone *literature review* and a fully developed *research proposal*. These are the two main items of summative assessment for paper 214.212. The final grade for paper 214.212 will be based on (a) a Literature Review plus References (25%) and (b) the submitted final Research Proposal (75%). Assessment is based on set criteria which define the overall quality of the *literature review plus references* and the fully developed *research proposal* (see appendix two for further detail related to criteria for each).

Research proposal progress reports: In August and October you are to present reports on your progress. These two reports will contain material from the Research Proposal that you are

developing, and will give me (paper coordinator) a clearer picture of your understanding of the whole process, and your progress. It puts me in a better position to provide help if needed. It is very important that you do not leave everything until the last minute. If you work steadily, as per instructions in the Study Guide, through out the semester, and stay in touch with me and other lecturers, you maximize your chances of passing this paper.

Progress report #1: This is a succinct outline of your progress to date, including description of the issue or problem which is the focus of your proposal, your aim, background to the topic, objectives or questions or hypotheses. In addition you should include justification and purpose of your proposed research.

Progress report #2: This is a further report on your progress to date, in the development of your Research Proposal. You should summarize each section in terms of success and difficulties encountered. You may append sections of your proposal that you would like your paper coordinator to review in advance of your final submission.

The progress reports do not contribute directly to the final grade of the paper, in any summative sense, but do add value to the assessment in a formative way. That is they inform me and others of how you are progressing.

The two progress reports are seen as the minimum formative assessment. You may hand in further reports, as appropriate, to keep you on track.

Assessment Item	Due Date	Word Limit	Weighting
Progress Rpt #1	Thursday Aug 20	1000	N/A(formative)
Literature Review & References	Thursday Sept 17	2000 (excluding references in count)	25% (summative)
Progress Rpt #2	Thursday Oct 01	1000	N/A(formative)
Final Research Proposal	Friday Oct 30	4,500	75% (summative)

Deadlines, extensions and penalties: All *progress reports*, the *literature review* and the final version of the *research proposal* are due by 5:00 pm on the dates as stated in the timetable. Late submission of the *progress reports*, *literature review* and final *research proposal* is acceptable only under exceptional circumstances (e.g. health reasons etc), and must be applied for in advance of the due date. Please keep in touch with me, your paper coordinator, especially if you feel you are falling behind and are unlikely to meet deadlines. The *literature review* and *research proposals* submitted after the due date, without legitimate reason, will be penalised at a rate of 2% per working day overdue (i.e. 10% per week).

The writing process: As the entire paper is fundamentally about writing a sound *research proposal* the recommended approach to writing each section is contained in the Study Guide itself, especially the section on the structure of the *research proposal* (Unit Two). Examples of *research proposals* are included in the Book of Readings. However, there are aspects of the *research proposal*, especially the *literature review* and the *references/bibliography*, that involve citation of literature sources, in common with that of a formal Research Report.

Assessment Description	Learning Outcomes Assessed					Contribution to Paper Mark
	1.	2.	3.	4.	5.	
Assessment Item	1.	2.	3.	4.	5.	
Progress Report #1	-	-	-	-	-	Formative only 0 %
Progress Report #2	-	-	-	-	-	Formative only 0 %

Literature Review	-	-	✓	-	-	25 %
Research Proposal	✓	✓	✓	✓	✓	75 %

Requirements to Successfully Complete the Paper: Hand in the completed *literature review* and *research proposal* by the due dates (unless other arrangements have been negotiated), and meet the criteria for a pass as outlined in the Marking Guides.

Learning Programme and Schedule:

Lectures, tutorials: The two hour lecture and one hour formal tutorial each week, will cover knowledge and skills about the research process. The one hour tutorial is also for presentations by specific staff on the research they are undertaking and/or discussion related to issues specific to each student’s research proposal.

Topics: Research methods overview (quantitative, qualitative), research problems, history of science, scientific method, data bases and other library resources, research design (sampling, validity, reliability), critique of research findings, ethical issues, cultural issues (biculturalism), analysis of findings, specific research methods/types (ex post facto, experimental, survey [qualitative versus quantitative], funding bodies and applications.

Most sessions will be facilitated by John Ruck. Brian Caughley will cover statistics in Unit 8.

Student Time Budget: Total student budget time for a 15 credit paper is approximately 187.5 hours (based on 15 week semester x 12.5 hours per week). This one semester paper involves 3 hours of formal class contact per week over a period of 12 weeks (total 36 hours). That is 36 hours teacher-directed study. However, the remaining hours (approximately 150) is student-directed learning

<i>Lectures</i>	<i>2 hours/week</i>
<i>Tutorial</i>	<i>1 hour/week</i>
<i>Self-directed learning</i>	<i>sufficient to meet the outcomes (approx. 150 hours)</i>

Proposed Feedback and Support for Student Learning:

Each student is encouraged to define the research focus of the Research Proposal very early in the course, to take full advantage of class discussions and critique, of each proposal. Submission of formative progress reports related to the literature review and the research proposal is recommended, and thus each student will receive progressive feedback as the proposal takes shape.

Near the end of the course a questionnaire will be given out with specific questions about the delivery of the course. This is not compulsory but student feedback and constructive criticism is strongly encouraged. Any suggestions and comments regarding the course will help us to improve the paper.

Textbook and Other Recommended Reading:

Required Textbook:

Kumar, R. (2005). *Research Methodology - A step-by-step Guide for Beginners* (2nd ed.). London: SAGE Publications Ltd.

Recommended Reading:

Ben-Chaim, M. (c2004). *Experimental philosophy and the birth of empirical science Boyle, Locke, and Newton*. Aldershot, Hampshire, England : Ashgate.

Bruce, C. (1992). *Developing Students' Library Research Skills. HERDSA Green*

Guide # 13.

- Coombes, H. (2001). *Research using IT*. Basingstoke [England] : Palgrave
- Department of Statistics New Zealand, (1995). *A Guide to Good Survey Design*.
Wellington: Department of Statistics Te Tari Tatau.
- Dey, I. (c1999). *Grounding grounded theory: guidelines for qualitative inquiry*. San Diego:
Academic Press.
- Edwards, T. (2008). *Research Design and Statistics. A Bio-Behavioural Focus*. Boston: McGraw
Hill.
- Eichler, M. (1991). *Nonsexist Research Methods: A Practical Guide*. New York: Routledge.
- Fink, A. (2005). *Conducting research literature reviews: from the Internet to paper*.
Thousand Oaks, California: Sage Publications.
- Grossman, J. (Ed.) (1993). *The Chicago Manual of Style* (14th ed.). Chicago: The University of
Chicago Press.
- Hollander, M. & Proschan, F. (1984). *The Statistical Exorcist Dispelling Statistics Anxiety*. New
York: Marcel Dekker, Inc.
- Kerridge, D. (1988). *Presenting facts and figures*. Harlow: Longman Group UK Limited.
- Lee, R. (1993) *Doing Research on Sensitive Topics*. London: Sage Publications.
- Marshall, C. & Rossman, G. (1989). *Designing Qualitative Research*.
London: Sage Publications, 1989.
- Mauch, J. & Birch, J. (1998). *Guide to the Successful Thesis and Dissertation: a handbook for
students and faculty* (4th ed.) New York: Marcel Dekker, Inc.
- Peat, J., Mellis, C., Williams, K. & Xuan, W. (2001). *Health Science Research, A Handbook of
Quantitative Methods*. Crows Nest NSW: Allen & Unwin.
- Polit, D.F. & Hungler, B. P. (1997). *Essentials of Nursing Research, Methods, Appraisal and
Utilization* (4th ed.) New York: Lippincott.
- Polit O'Hara, D.F. & Beck, C.T. (2006). *Essentials of Nursing Research: Methods Appraisal and
Utilization* (6th ed.) Philadelphia: Lippincott.
- Robert, N. & Sankey, H. (1999). *After Popper, Kuhn, and Feyerabend : recent issues in
theories of scientific method*. Boston : Kluwer Academic Publishers.
- Rountree, K. (1993). *Writing for Success: A Practical Guide for New Zealand Students*.
Auckland: Longman Paul Ltd.
- Shott, S. (1990). *Statistics for Health Professionals*. Philadelphia: W.B. Saunders Company.
- Wadsworth, Y. (1993). *Do It Yourself Social Research*. Melbourne: Victorian Council of Social
Service Melbourne Family Care Organization in association with Allen & Unwin.
- Welland, T, & Pugsley, L. (Eds.). (2002). *Ethical Dilemmas in Qualitative Research*. Aldershot:
Ashgate.

Additional Costs: None other than the required textbook.

Conditions for Aegrotat Pass and Impaired Performance: If you are prevented by illness, injury or serious crisis from attending an examination (or completing an element of assessment by the due date), or if you consider that your performance has been seriously impaired by such circumstances, you may apply for aegrotat or impaired performance consideration. You must apply on the form available from the Examinations Office, the Student Health Service or the Student Counseling Service.

However, please note that the regulations for an Aegrotat Pass require that 40% of the total assessments must have been completed. As the only internal component is a Literature Review (25%), an AEG Pass cannot be awarded if exceptional circumstances prevent you from developing and submitting the Final Research Proposal (75%). In some cases a Not Finalised (NF) Grade may be given and a late submission date negotiated.

Plagiarism: Massey University, College of Sciences, has taken a firm stance on plagiarism and any form of cheating. Plagiarism is the copying or paraphrasing of another person's work, whether published or unpublished, without clearly acknowledging it. It includes copying the work of other students. Plagiarism will be penalized; it is likely to lead to loss of marks for that item of assessment and may lead to an automatic failing grade for the paper and/or exclusion from reenrollment at the University.

Grievance Procedures: A student who claims that he/she has sustained academic disadvantage as a result of the actions of a University staff member should use the University Grievance Procedures. Students, whenever practicable, should in the first instance approach the University staff member concerned. If the grievance is unresolved with the staff member concerned, the student should then contact the College of Sciences office on his/her campus for further information on the procedures, or read the procedures in the University Calendar.

Appendix One: Lecture Outline

Lectures/tutorials Thursday 13:00–16:00 pm Room TBA

Week	Date	Topic
1	July 16	Unit 1 – Concept of Research & Research Methods
2	July 23	Unit 2 - Research Proposal
3	Jul 30	Unit 3 - Data Bases & Library Resources
4	Aug 06	Unit 4 – History of Science & Health, Scientific Method
5	Aug 13	Unit 5 – Research Design
6	Aug 20	Unit 6 – Ex Post Facto & Exptl Research - Progress Rpt #1 Due
	Aug 27	Mid Semester Break – Study Break
	Sept 03	Mid Semester Break – Study Break
7	Sept 10	Unit 7 - Survey Research & Qualitative Research
8	Sept 17	Unit 8 – Analysis of Data – Literature Review Due Sept 17
9	Sept 24	Unit 9 – Ethical & Cultural Issues
10	Oct 01	Unit 10 - Critique of Research Findings – Progress Rpt #2 Due
11	Oct 08	Unit 11 Funding Bodies, Funding Rounds & Applications
12	Oct 15	Final stages of proposal preparation
13	Oct 22	Study Week
	Oct 30	Submission of Final Proposal

Appendix Two: Literature Review and Research Proposal Marking Guides

(A) Literature review marking guide:

Unit Three of your Study Guide explains what is expected in terms of developing a Literature Review. Read this section carefully, as well as the relevant chapter in your textbook Kumar (2005). In addition, to get a better sense of writing style, look at the examples of Research Proposals given in the Book of Readings. Remember you are developing a conceptual and theoretical framework which defines the context in which your particular research will sit. The word limit is 2000, excluding the references. Note the reference list containing the cited references must be handed in with the Literature Review.

The following table or marking guide highlights the qualities being assessed in the Literature Review. Although these qualities are included along side each grade and mark category, it must be noted that a significant amount of the final assignment of a grade and mark, is based on professional judgment, which considers holistic qualities not readily defined. Even so this marking guide is congruent with the functions of a Literature Review given on pages 30 - 32 in Kumar (2005), and should represent a useful guide to you as you develop the review, as well as to those who assess your submission.

Grade Qualities and Criteria

A⁺(93-100)	As for qualities of B, extensive, in depth review of sources, discussion strongly supportive of research design. Eloquent expression reflecting
A (87-92)	expert level of understanding of discipline. Conceptual and theoretical
A⁻ (81-86)	frame work well developed, leaving no doubt of the wider defining context of the proposed research.
B⁺(75-80)	As for qualities of C, wider range of sources consulted, strong linkages established with research issues and methods of data collection. Demonstrates a very good understanding of the concepts and principles of the discipline area. Argument(s) sustained throughout the review and
B (69-74)	demonstrates an appreciation of congruent and conflicting theories. History of

	discipline, in terms of concepts and theories outlined
B (63-68)	appropriately.
C+(57-62)	Simple discursive review of a basic range of literature sources. Reasonable links with focus of proposal. Signs that research methodology
C (50-56)	has been modified or informed by information derived from literature. Research placed in wider context. Standard citation style maintained in body of review and references.
D (40-49)	Simple annotated bibliography and/or limited citations and/or poorly developed links with focus of proposal.
E (<40)	Completely inadequate review, with major aspects missing or no literature review.

Mark and Grade for **Literature Review & References** _____/100 Grade _____

Expressed out of 25, as contributing to final Mark and Grade for whole paper ____/25

In summary: How to go about developing the Literature Review. Use combined information from: the assessment section of this Paper Outline, including the qualities given in the Marking Guides (above); Chapter Three (on page 30) of your textbook Kumar (2005); notes in Unit Three of your Study Guide; and the literature reviews within the examples of Research Proposals found in the Book of Readings, to guide you in the development of the review. In addition there will be a teaching session devoted to the Literature Review

(B) Research Proposal marking guide:

The Research Proposal Guideline (see Study Guide Unit Two) outlines the requirements for a Research Proposal aimed at meeting the standards of a typical recognized Research and/or Ethics Committee. The qualities and criteria, given in the marking guide (following page), should be used by you as a check list, to ensure you have dealt with each section appropriately, **prior** to submission of your final proposal.

Determination of mark and grade for the research proposal:

This table derives grades based on the qualities in the marking guide presented in landscape format on the next page.

Grade Criteria

A+ (93-100)	All qualities at A or above, at least seven at A plus
A (87-92)	All qualities at A minus or above, at least seven at A or above

A⁻ (81-86)	All qualities at B plus or above, at least seven at A minus or above
B⁺ (75-80)	All qualities at B or above, at least seven at B plus or above
B (69-74)	All qualities at B minus or above, at least seven at B or above
B⁻ (63-68)	All qualities at C plus or above, at least seven at B minus or above
C⁺ (57-62)	All qualities at C or above, at least seven at C plus or above
C (50-56)	All qualities at D or above, at least eight at C or above
D (40-49)	All qualities at D or above, three or more qualities at D level
E (<40)	Four or more qualities at E level

Mark and Grade for **Final Research Proposal** _____/100 Grade _____

Expressed out of 75, as contributing to Final Mark and Grade for whole paper _____/75

NB: The final full Research Proposal should include the Literature Review, preferably one amended as a result of feedback given when the Literature Review was marked as a stand alone entity, earlier in the course.

Overall Final Grade for Paper 214.212:

The final (overall) Grade for paper 214.212 Research Methods in the Health Sciences is derived from combining the mark for the *Literature Review* with the mark for the full *Research Proposal*, that is $X/25 + X/75 = X/100$, and expressed as a Grade, A, B, C, R, D or E based on the ranges in the table above.

Paper 214.212 MARKER'S GUIDE	(Scholarly) A (Flair) + ← -	(Perceptive) B (Promising) ← + -	(Competent) C (Average) + ← → -	(Flawed/rewrite) D/E (Poor) → -
Title page	As for B, balanced, attention steeling title page	As for C, title succinct capturing the essence of the proposal	All key elements present	One or more elements missing or no title page at all
Abstract	As for B, concise technically eloquent summary of proposal	As for C, informative summary of all sections	All sections represented, but some not fully covered	Poor summary, incomplete coverage or missing altogether
Introduction, justification & purpose	As for B, demonstrates in depth understanding of research context and implications	As for C, wider context explained, purpose and justification strongly linked	Issues defined simply, purpose and justification stated	Unclear description of what proposal is about or complete confusion
Aims, objectives, questions & hypotheses	As for B, considerable insight into the research issues evident	As for C, continuity between key elements demonstrated, realistic given the resources	Aim, objectives or questions or hypotheses stated clearly	Muddled, no continuity between aim and objectives or absent altogether
Literature review	As for B, extensive in depth review of sources, discussion supportive of research design	As for C, wider range of sources consulted, linkage with research issues and methods made	Simple discursive review of a basic range of literature sources	Simple annotated bibliography or no literature review
Research design, validity issues	As for B, elaborate research design demonstrating in depth understanding of the research process, ensuring high levels of validity	As for C, all variables accounted for in the research design, attention given to ensuring validity, largely free of bias	Basic research design outlined, with variance largely accounted for by appropriate data gathering methods	Poor understanding of research design or no sense of need for validity or reliability
Specific research methodology, reliability	As for B, full discussion of choice of method, including comparison with others	As for C, evidence that the latest methodology will be applied, limitations stated clearly	Research method, including rationale for sampling plan, explained well, reliability good	Research method explained poorly, no link with aims and objectives or confused

Ethical & cultural issues	As for B, consideration goes well beyond merely academic	As for C, issues and appropriate responses explored thoroughly	Where applicable, issues identified and responses stated	Inappropriate responses or no consideration of issues
Data analysis	As for B, significance of chosen statistical analysis explained, rationale for choice given	As for C, data analysis strongly linked to chosen methodology and sampling	Basic statistical data analysis explained simply	Superficial treatment of data analysis or completely absent
Format, language & parsimony	As for B, complex research terminology used appropriately	As for C, fully integrated format concise expression	Tidy format, key sections in logical order, understandable	Confused layout, no sense of integration, very poor grammar

