



CUMMING SCHOOL OF MEDICINE
GRADUATE COURSE OUTLINE

COURSE TITLE: HEALTH RESEARCH METHODS			
Course	MDCH 681		
Pre/Co-Requisites	Registration in the Community Health Sciences graduate program. Consent of the instructor is required for all other students		
Faculty	Cumming School of Medicine, Graduate Science Education		
Instructor Name	Dr. Gavin McCormack	Email	gmccorma@ucalgary.ca
Office Location	TRW Building, 3E18D	Office Hours	By appointment
Telephone No.	403-220-8193		
Instructor Name	Dr. Pamela Roach	Email	pamela.roach@ucalgary.ca
Office Location	Room 193A, HMR Building	Office Hours	By appointment
Telephone No.	403-210-7574		
TA Name	Connor O'Reilly	Email	connor.orielly1@ucalgary.ca
TA Name	Stephana Cherak	Email	sjcherak@ucalgary.ca
Class Term, Days	Winter 2020		
Class Times	Tuesday 9:00-11:50am and Friday 9:30-11:20am		
Class Location	Refer to schedule		

COURSE INFORMATION/DESCRIPTION OF THE COURSE

The World Health Organization (WHO) defines health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”. Health research therefore is concerned with the study of the various individual, social, environmental, economic, systems, and cultural factors that influence the health and wellbeing of individuals, communities, and populations. Health research adheres to the scientific method and demands objectivity, critical thinking, the rigorous and systematic application of research approaches, an understanding of the implications of research findings, the principles of bioethics, and the ability to effectively communicate knowledge and findings with researchers, policymakers, practitioners, and the public.

This course provides an overview of research methods used within Community Health Sciences, introducing students to quantitative, qualitative, and mixed methods, literature reviews, research ethics, knowledge translation, data collection and acquisition, and program evaluation. This course exposes students to scientific concepts that form the

basis of all health research. This course prepares students for undertaking more advanced or applied research methods courses within their specializations. Students will gain familiarity with aspects of the research process such as critically evaluating scientific literature, developing research questions, designing a study, preparing and defending a research proposal, and learning how to “peer-review”.

The course assumes limited prior experience with health research methods. Course content and structure will be geared to the level of students in the program who have completed some of their coursework but who have yet to fully embark on their thesis, and are in the early stages of developing their thesis proposal. These students may or may not have had research methods training as part of their undergraduate degree. This course fosters interdisciplinary collaboration among students from different professional and academic backgrounds.

LEARNING RESOURCES/REQUIRED READING

Required Resources:

1. Public Health Research Methods (2015). Editors Greg Guest and Emily E. Namey, Sage Publications Inc. [Print copy on UofC Reserve and online copy available through UofC]
2. Required weekly readings will be assigned.

Recommended Resources:

Chasan-Taber, L. (2016) Writing Dissertation and Grant Proposals. Epidemiology, Preventive Medicine and Biostatistics (CRC Press)

COURSE OBJECTIVES/LEARNING OUTCOMES

Course Aim

Using instructor and guest lectures, active participation, peer feedback, and classroom discussion, this course will provide students with a fundamental-to-intermediate understanding of the health research process. The course is designed to develop the competencies, knowledge and research skills necessary to undertake graduate research in the broad areas of public health, and health services and systems.

Learning Objectives

Following completion of this course, students will:

1. Identify and describe the basic principles of health research methodology.
2. Describe the differences between quantitative, qualitative, and mixed methods approaches in health research.
3. Be familiar with the strengths and limitations of commonly used approaches for qualitative and quantitative data collection and in health research.
4. Describe the differences between commonly used approaches for reviewing scientific evidence.

5. Describe the various approaches and steps involved in knowledge translation and exchange in health research.
6. Develop and apply understanding and skills in writing a scientifically rigorous research proposal.
7. Develop skills in critically appraisal and providing peer feedback.
8. Verbally articulate their proposed research in a clear and compelling manner.

Enabling Objectives

The list of objectives below will directly or indirectly inform the evaluation for this course.

1. Given a published peer-reviewed article, the student should be able to identify and determine the appropriateness of the research question, rationale, hypotheses, research approach, study design, sample design, data collection approach, and interpretation of findings and conclusions.
2. Given a published peer-reviewed article or research or grant proposal, the student should be able to describe the internal and external validity.
3. Given a published peer-reviewed article or research or grant proposal, the student should be able to describe the measurement quality of data collection and appraisal tools.
4. The student should be able to develop a research proposal that demonstrates their knowledge and understanding of the scientific principles that have been acquired from course lectures, readings, peer feedback, and assignments.
5. As a reviewer, the student should be able to apply their understanding of scientific principles and proposal writing to provide written feedback on their colleague's proposals.
6. As a receiver of peer feedback, the student should be able to incorporate and or address feedback provided by their peers in their research proposal.
7. The student should be able to effectively communicate using scientific language and conventions.
8. The student should be able to effectively contribute to classroom and group activities.

CUT POINTS FOR GRADES			
This course adheres to the grading system outlined in the University of Calgary, Faculty of Graduate Studies Calendar. Grades of A+ and A are not distinguished in the calculation of GPAs. Percentage/letter grade conversion used for this course is as follows			
Grade	Grade Point Value	Percentage Conversion	Graduate Description
A+	4.00	95-100	Outstanding
A	4.00	90-94	Excellent – superior performance showing comprehensive understanding of the subject matter
A-	3.70	85-89	Very Good Performance
B+	3.30	77-84	Good Performance
B	3.00	72-76	Satisfactory Performance
B-	2.70	68-71	Minimum Pass for Students in the Faculty of Graduate Studies
C+	2.30	63-67	All grades below ‘B-’ are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements

Assessment Components: The University policy on grading related matters is outlined in the 2019-2020 Calendar .			
Assessment Methods	Description	Weight %	Due Date and Time
1. Proposal summary (written)	The student will be required to submit a scientific summary or abstract of their proposed research which will include the following Title; Background; Study Aim/Research Questions; Hypotheses; Methods; Significance or Relevance, and; References. Further details regarding the specifics of this assessment will be provided in class and through D2L.	10	February 7 (Friday), 4pm
2. Proposal presentation (oral)	The student will be required to provide an overview of their proposed research through a 10-minute oral presentation (plus 5-minutes of questions from the audience). The student, where possible and reasonable to do so, is expected to have	15	February 25, 28, March 3, 6, during class time

	incorporated previous feedback from instructors or teaching assistants into their presentation. Students are encouraged to present in a clear and concise manner.		
3. Proposal submission 1 (written)	Students will be required to submit a complete proposal for review. The details of the requirements will be provided in class and through D2L.	15	March 13 (Friday), 4pm
4. Proposal peer review (written)	The student will be assigned to provide a comprehensive review of a peer's proposal. Further details and information regarding the specifics of this assessment will be provided in class and through D2L. The student will be required to submit a completed peer review to the course instructors or teaching assistants where it will be graded and a copy provided to the student whose proposal has been assessed. Students will later be required to incorporate the peer feedback into their proposal along with any additional comments provided by the TAs and/or course instructors.	15	March 23 (Monday), 4pm
5. Proposal submission 2 (written)	The student will be expected to incorporate reviewer comments into their final proposal submission. Both the final proposal and the response to reviewers will be graded and should be submitted together.	20	April 9 (Thursday), 4pm
6. Registered exam (written)	During the closed-book exam, the student will read documents (peer-reviewed articles and/or proposals) and answer a series of written questions regarding the research methods and interpretation of any findings.	25	3 hours, TBD

ASSESSMENT AND EVALUATION INFORMATION

ATTENDANCE AND PARTICIPATION EXPECTATIONS: This required course provides an opportunity to develop new or enhance current skills. You cannot meet this goal by recycling work you've done previously (i.e., do not submit a proposal you have funding for, a project you've already completed, or a thesis proposal already approved by your committee). Clearly understand that the work completed for this class is required course work. You may work on a



proposal idea that you develop further as a thesis proposal with your supervisor and committee. However, please note you will be expected to make revisions to your assignments based on feedback you receive in the course.

GUIDELINES FOR SUBMITTING ASSIGNMENTS: All assignments are to be submitted as a word document (PDFs or other format will not be accepted). Assignments must be submitted via D2L. The filename for all uploaded assignments **must** include the student's first and last name and assignment name (e.g., Gavin McCormack Proposal Summary). First and last name and UC ID number must be included on all submitted assignments. **Assignments must be submitted by 4pm on the due date.**

FINAL EXAMINATIONS: Registered written exam (3 hours)

EXPECTATIONS FOR WRITING: Instructors may use their assessment of writing quality as a factor in the evaluation of student work.

LATE AND/OR MISSING ASSIGNMENTS: A passing grade on each evaluated component is required for you to pass the course as a whole. Note, writing skills are important to academic study across all disciplines.

Assignments should be upload to D2L by the specified due date and time. Assignments received after the due date will be considered late by one day and penalized 10%. Each additional 24-hour period after that will result in an additional 10% reduction. Assignments submitted 10 calendar days or more after the due date will be refused and the students will receive a score of zero for the assignment.

Students may hand in assignments late without penalty under the following circumstances:

- The student has discussed the timelines with course instructor in advance of the due date and the course instructor has granted an extension in writing.
- There is a valid health or family emergency as discussed under the University regulations for deferral of final examinations. Refer to specific information in the University Calendar.

COURSE TIMETABLE			
Course Schedule Date (room)	Topic & Reading	Instructor	Assignments/Due Dates & Times
January 14, Tuesday (G750)	Course Overview Research Paradigms	Gavin McCormack Pamela Roach	
January 17, Friday (G750)	Quantitative Research	Gavin McCormack	
January 21, Tuesday (G750)	Quantitative Research	Gavin McCormack	
January 24, Friday (G750)	Qualitative Research	Pamela Roach	
January 28, Tuesday (G750)	Qualitative Research	Pamela Roach	
January 31, Friday (G750)	Mixed Methods Research	Pamela Roach	
February 4, Tuesday (G750)	Writing Successful Proposals	Panel Discussion	
February 7, Friday (HSL)	Evidence Search and Management	Lorraine Toews Diane Lorenzetti	February 7 Assignment 1 –Proposal Summary
February 11, Tuesday (G750)	Systematic Review/Meta-Analysis	Paul Ronksley	
February 14, Friday (G637)	Natural and Quasi-Experiments	Gavin McCormack	
Reading Week (February 16-22)			
February 25, Tuesday (G750)	Student presentations		Assignment 2
February 28, Friday (G750)	Student presentations		Assignment 2
March 3, Tuesday (G750)	Student presentations		Assignment 2
March 6, Friday (G384)	Student presentations		Assignment 2
March 10, Tuesday (G750)	Knowledge Translation	Kelly MrKlas	
March 13, Friday (G384)	Research Integrity and Ethics	Stacey Page	March 13 Assignment 3 – Proposal Submission 1
March 17, Tuesday (G750)	Peer Review and Critical Appraisal	Doreen Rabi	
March 20, Friday (G384)	Surveys and Questionnaires	Gavin McCormack	March 23 Assignment 4 – Proposal Submission Peer Review
March 24, Tuesday (G750)	Economic Evaluation	Eldon Spackman	
March 27, Friday (G750)	Evaluation Research	Julia Arndt	
March 31, Tuesday (G750)	Journal Club		
April 3, Friday (G750)	Research using Administrative Data	Hude Quan	
April 7, Tuesday (G750)	Public Health Surveillance	Margaret Russel	April 9 Assignment 5 – Proposal Submission 2
April 10, Friday	No class (Statutory holiday)		
April 14, Tuesday (G750)	Journal Club		



INTERNET AND ELECTRONIC COMMUNICATION DEVICE INFORMATION

Cell phones must be turned off in class unless otherwise arranged with the instructor.

The use of laptop and mobile devices is acceptable when used in a manner appropriate to the course and classroom activities. Students are to refrain from accessing websites that may be distracting for fellow learners (e.g. personal emails, Facebook, YouTube). Students are responsible for being aware of the University's Internet and email use policy, which can be found at <https://www.ucalgary.ca/policies/files/policies/electronic-communicationspolicy.pdf>.

MEDIA AND RECORDING IN LEARNING ENVIRONMENTS

Media recording for lesson capture

The instructor may use media recordings to capture the delivery of a lecture. These recordings are intended to be used for lecture capture only and will not be used for any other purpose. Although the recording device will be fixed on the Instructor, in the event that incidental student participation is recorded, the instructor will ensure that any identifiable content (video or audio) is masked, or will seek consent to include the identifiable student content to making the content available on University approved platforms.

Media recording for assessment of student learning

The instructor may use media recordings as part of the assessment of students. This may include but is not limited to classroom discussions, presentations, clinical practice, or skills testing that occur during the course. These recordings will be used for student assessment purposes only and will not be shared or used for any other purpose.

Media recording for self-assessment of teaching practices

The instructor may use media recordings as a tool for self-assessment of their teaching practices. Although the recording device will be fixed on the instructor, it is possible that student participation in the course may be inadvertently captured. These recordings will be used for instructor self-assessment only and will not be used for any other purpose.

Student Recording of Lectures

Audio or video recording of lectures is prohibited except where explicit permission has been received from the instructor.

UNIVERSITY OF CALGARY POLICIES AND SUPPORTS

ACADEMIC ACCOMMODATIONS

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at <http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf>



IMPORTANT INFORMATION

Any research in which students are invited to participate will be explained in class and approved by the appropriate University Research Ethics Board

INSTRUCTOR INTELLECTUAL PROPERTY

Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing

COPYRIGHT LEGISLATION

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy

ACADEMIC INTEGRITY

The Cumming School of Medicine expects intellectual honesty from its students. Course participants should be aware of University policies relating to Principles of Conduct, Plagiarism and Academic Integrity. These are found in the printed Faculty of Graduate Studies Calendar, or online under Academic Regulations in the Faculty of Graduate Studies Calendar, available at [Faculty of Graduate Studies Academic Regulations](#)

ACADEMIC MISCONDUCT

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>

EMERGENCY EVACUATION AND ASSEMBLY POINTS

Assembly points for emergencies have been identified across campus. The primary assembly points for South Campus (Health Science Centre (HSC); Health & Research Innovation Centre (HRIC); Heritage Medical Research Building (HMRB) and Teaching, Research and Wellness (TRW)) are:

- HSC and HMRB: HRIC Atrium (alternate assembly point is Parking Lot 6)
- HRIC: HMRB Atrium (alternate assembly point is Parking Lot 6)
- TRW: McCaig Tower (alternate assembly point is HMRB – Atrium)

APPEALS

If there is a concern with the course, academic matter or a grade, first communicate with the instructor. If these concerns cannot be resolved, students can proceed with an academic appeal, as per Section N of the Faculty of Graduate Studies Calendar. Students must follow the official process and should contact the Student Ombuds Office (<http://www.ucalgary.ca/provost/students/ombuds>) for assistance with this and with any other academic concerns, including academic and non-academic misconduct



THE FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY (FOIP) ACT

This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP) and students should identify themselves on written assignments (exams and term work.) by their name and ID number on the front page and ID on each subsequent page. Assignments given by you to your course instructor will remain confidential unless otherwise stated before submission. The assignment cannot be returned to anyone else without your expressed permission to the instructor. Grades will be made available on an individual basis and students will not have access to other students' grades without expressed consent. Similarly, any information about yourself that you share with your course instructor will not be given to anyone else without your permission

WELLNESS AND MENTAL HEALTH RESOURCES

The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the excellent mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre), <https://www.ucalgary.ca/wellnesscentre/services/mental-health-services> and the Campus Mental Health Strategy website <https://www.ucalgary.ca/mentalhealth/>

SUPPORTS FOR STUDENT LEARNING, SUCCESS, AND SAFETY

Student Ombudsman: The Student Ombuds' Office supports and provides a safe, neutral space for students. For more information, please visit www.ucalgary.ca/ombuds/ or email ombuds@ucalgary.ca

Student Union: The SU Vice-President Academic can be reached at (403) 220-3911 or suvpaca@ucalgary.ca; Information about the SU, including elected Faculty Representatives can be found here: <https://www.su.ucalgary.ca>

Graduate Student's Association: The GSA Vice-President Academic can be reached at (403) 220- 5997 or gsa.vpa@ucalgary.ca; Information about the GSA can be found here: <https://gsa.ucalgary.ca>

SAFEWALK

Campus security will escort individuals, day or night, anywhere on campus (including McMahon Stadium, Health Sciences Centre, Student Family Housing, the Alberta Children's Hospital and the University LRT station). Call 403-220-5333 or visit <http://www.ucalgary.ca/security/safewalk>. Use any campus phone, emergency phone or the yellow phone located at most parking lot pay booths. Please ensure your personal safety by taking advantage of this service.