



CUMMING SCHOOL OF MEDICINE
GRADUATE COURSE OUTLINE

COURSE TITLE: Systematic Reviews and Meta-analysis			
Course	MDCH 741		
Pre/Co-Requisites	MDCH 610 and MDCH 640 or consent of Instructor		
Faculty	Cumming School of Medicine, Graduate Science Education		
Course Coordinator(s)	Dr. Paul Ronksley Dr. Alexander Leung	Email	peronksl@ucalgary.ca aacleung@ucalgary.ca
Instructor Name(s)	Dr. Darren Brenner Dr. Lauren Bresee Ms. Heather Ganshorn Dr. Glen Hazlewood Dr. Diane Lorenzetti Dr. Daniel Niven Dr. Serena Orr Dr. Leslie Skeith Dr. Karen Tang Ms. Krista Wollny	Email	darren.brenner@ucalgary.ca LaurenB@cadth.ca heather.ganshorn@ucalgary.ca gshazlew@ucalgary.ca dllorenz@ucalgary.ca daniel.niven@albertahealthservices.ca serena.orr@albertahealthservices.ca laskeith@ucalgary.ca klktang@ucalgary.ca krista.wollny@gmail.com
Office Location	TRW 3 rd Floor (3E18B)	Office Hours	Arranged at the request of students
Instructor Email Policy	Email queries will be addressed by one of the course coordinators within 3 business days		
Telephone No.	(403) 220-8820		
TA Name	TBD	Email	TBD
Class Term, Days	Mondays, Fall Semester (September-December 2020)		
Class Times	4:00pm-7:00pm MST		
Class Location	Online via Zoom		

This course will take place **online** via Desire2Learn (D2L) and Zoom via synchronous instruction. To best succeed in the course, students are encouraged to participate in the synchronous Zoom sessions. When unable to participate live due to the time difference or unforeseen circumstances, inform the instructor in advance and propose and implement propose an alternative participation activity.

COURSE INFORMATION/DESCRIPTION OF THE COURSE
This course will guide participating students through all of the steps involved in the critical appraisal and conduct of a systematic review and meta-analysis. Online (synchronous) sessions will be held on

Mondays from 4pm until 7pm. The students will mainly work in pairs and each pair will present a preliminary systematic review topic and plan in the fourth week of the course, then a final systematic review and meta-analysis will be presented and submitted at the final class session. Project work will occur throughout the semester and will be scheduled by the students themselves at times that suit their individual schedules.

LEARNING RESOURCES/REQUIRED READING

The core textbook for this course is available in the Medical Bookstore or electronically through the University of Calgary library.

Egger M, Davey Smith G, Altman DG (editors). Systematic Reviews in Health Care: Meta-analysis in context. BMJ Publishing Group, London: 2001.

The statistical software that we will use to perform meta-analysis in this course is **Stata**.

Students will receive reading assignments in advance of each session, and these will be drawn from the course textbook as well as from a number of supplementary reading materials that will be provided to the students as the course proceeds.

COURSE OBJECTIVES/LEARNING OUTCOMES

The course goals are:

1. To participate in all of the steps involved in the conduct of a systematic review and meta-analysis
2. To recall and develop the components of a research question amenable to systematic review
3. To develop and present a systematic review study outline
4. To gain familiarity with components of a comprehensive and systematic literature search strategy
5. To determine the steps needed for including/excluding studies in a systematic literature review including data abstraction and development of a standard database
6. To determine approaches and measures to determine study quality
7. To undertake the statistical combination of results from two or more separate studies
8. To become familiar with reporting standards for systematic reviews and meta-analyses
9. To gain familiarity with issues in conducting meta-analyses for diagnostic and observational types of questions
10. To explore other types of reviews (scoping reviews, realist reviews and network meta-analysis)



Communication

Brightspace (By D2L) is located on the University of Calgary server and will be used extensively for communication with Students. A link to the zoom class will be provided on D2L. It is the student's responsibility to ensure that they receive all posted communications and documents and that they receive e-mails sent by instructors of fellow students through D2L. Only your @ucalgary.ca e-mail address maybe linked to D2L. Please ensure that you are regularly checking your @ucalgary.ca account

Learning Technology Requirements

In order to successfully engage in learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security and malware updates;
- A current and updated web browser;
- Webcam (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Broadband internet connection

Most current laptops will have a built-in webcam, speaker and microphone.

Please see the following for a detailed explanation of the minimal required technology for online learning <https://elearn.ucalgary.ca/technology-requirements-for-students/>

A laptop, desktop, tablet or mobile device is required for D2L access. If you need help accessing or using D2L, please visit the Desire2Learn resource page for students: <http://elearn.ucalgary.ca/d2l-student/>.

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	85-94	Excellent – superior performance showing comprehensive understanding of the subject matter
A-	3.70	80-84	Very Good Performance
B+	3.30	75-79	Good Performance

B	3.00	70-74	Satisfactory Performance
B-	2.70	65-69	Minimum Pass for Students in the Faculty of Graduate Studies
C+	2.30	55-64	All grades below 'B-' are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements
C	2.00	50-54	

Assessment Components: The University policy on grading related matters is outlined in the [2019-2020 Calendar](#).

Assessment Methods	Description	Weight %	Due Date and Time
Oral	Participation in sessions and presentation of material at sessions	10	Evaluated throughout semester
Written	Study proposal	20	Due before midnight Friday October 9 th
Written	PROSPERO registration	5	Due before midnight Monday October 26 th
Written	Completion of a data analysis assignment	15	Due before midnight Friday November 6 th
Written	Final report	50	Due before midnight Monday December 14 th

ASSESSMENT AND EVALUATION INFORMATION
<p>Students will work in groups of two in conducting their projects and will need to complete (in a timely manner) the global course assignment of conducting a systematic review and meta-analysis from beginning to end, with completion of a written description of the study by mid-December. This will be achieved by having students complete a series of written assignments as sessions proceed (i.e., initial assignment on development of a mini-protocol, assignment on conduct of a literature search, preparation of a data abstraction form, data analysis, etc.). Performance on these tasks (listed in the table above) will be rated by the course co-instructors and written feedback will be provided to participating students. A passing grade on the final report is essential to pass the course as a whole. At the conclusion of the course, students will be encouraged to continue working with their supervising course instructors to refine their submitted final reports to a manuscript form for submission to the peer-reviewed medical literature.</p> <p>Final Examination: There will be no registrar scheduled exam.</p>

Late Assignments:

- Assignments are due on the specified date and time (outlined above). Students who hand in assignments late will be penalized 5% per day for handing in late. Assignments that are handed in 14 calendar days or more after the due date will be refused and the students assigned 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
 - There is a valid health or family emergency such as is discussed under the University regulations for deferral of final examinations. Students may be required to provide the Course Coordinators with such documentation related to illness and/or emergency as is discussed and required in the University regulations pertaining to deferral of final examinations. This information can be found in the University Calendar.

Attendance and Participation Expectations:

In addition, as sessions proceed, each of the participating students will be asked to participate in class discussion relating to the assigned readings. As many instructors as possible will attend each class.

Is a passing grade on a particular component essential to pass the course as a whole? A passing grade on the final report is essential to pass the course as a whole.

COURSE TIMETABLE			
Course Schedule Date	Topic & Reading	Instructor	Assignments/Due Dates & Times
Monday September 14 th	Course introduction and outline for conducting a systematic review and meta-analysis. Critical appraisal of a systematic review	Ronksley & Leung	N/A
Monday September 21 st	Literature searching and data management for systematic reviews	Lorenzetti & Ganshorn	N/A
Monday September 28 th	Interactive literature search session	Lorenzetti & Ganshorn	N/A

Monday October 5 th	Student protocol presentations	All	Study protocol will be due before midnight (11:59pm) on Friday Oct 9th
Monday October 12 th	University closed for Thanksgiving – no class	N/A	N/A
Monday October 19 th	Study design and methods for assessing the quality of constituent studies	Leung	N/A
Monday October 26 th	Fundamental statistics for meta-analysis – Session 1	Ronksley & Leung	PROSPERO registration due before midnight (11:59pm) on Monday October 26th
Monday November 2 nd	Practical statistics for meta-analysis – Session 2	Ronksley	Data analysis assignment due before midnight (11:59pm) on Friday November 6th
Monday November 9 th	University closed for Reading Week/Remembrance Day – no class	N/A	N/A
Monday November 16 th	Reporting standards for systematic reviews	Ronksley	N/A
Monday November 23 rd	Systematic reviews of diagnostic test and prediction model studies	Leung	N/A
Monday November 30 th	Other types of reviews: scoping reviews and realist reviews Introduction to network meta-analysis & Evaluating evidence quality from systematic reviews	Niven Hazlewood	N/A
Monday December 7 th	Student presentations of their systematic reviews	All Instructors	Final submission of written report by midnight (11:59pm) Monday December 14th



Guidelines for Zoom Sessions

Zoom is a video conferencing program that will allow us to meet at specific times for a 'live' video conference, so that we can have the opportunity to meet each other virtually and discuss relevant course topics as a learning community.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

The use of video conferencing programs relies on participants to act ethically, honestly and with integrity; and in accordance with the principles of fairness, good faith, and respect (as the Code of Conduct). When entering Zoom or other video conferencing sessions, you play a role in helping create an effective, safe and respectful learning environment. Please be mindful of how your behaviour in these sessions may affect others. Participants are required to use names officially associated with their UCID (legal or preferred names listed in the Student Centre) when engaging in these activities. Instructors/moderators can remove those whose names do not appear on class rosters. Non-compliance may be investigated under relevant University of Calgary conduct policies. If participants have difficulties complying with this requirement, they should email the instructor of the class explaining why, so the instructor may consider whether to grant an exception, and on what terms. For more information on how to get the most out of your zoom sessions visit: <https://elearn.ucalgary.ca/guidelines-for-zoom/>.

If you are unable to attend a Zoom session, please contact your instructor to arrange an alternative activity (where available). Please be prepared, as best as you are able, to join class in a quiet space that will allow you to be fully present and engaged in Zoom sessions. Students will be advised by their instructor when they are expected to turn on their webcam (such as for group work, presentations, etc).

The instructor may record online Zoom class sessions for the purposes of supporting student learning in this class – such as making the recording available for review of the session or for students who miss a session. Students will be advised before the instructor initiates a recording of a Zoom session. These recordings will be used to support student learning only.

Conduct During Lectures

The classroom should be respected as a safe place to share ideas without judgement - a community in which we can all learn from one another. Students are expected to frame their comments and questions to lecturers in respectful and appropriate language, always maintaining sensitivity towards the topic. Students, employees, and academic staff are also expected to demonstrate behaviour in class that promotes and maintains a positive and productive learning environment.

As members of the University community, students, employees and academic staff are expected to demonstrate conduct that is consistent with the University of Calgary Calendar, the Code of Conduct and Non-Academic Misconduct policy and procedures, which can be found at <https://www.ucalgary.ca/policies/forms/title>.



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.