![University of Calgary logo]

CUMMING SCHOOL OF MEDICINE
GRADUATE COURSE OUTLINE

COURSE TITLE: Designing Medical Education Research			
Course	MDCH 630		
Pre/Co-Requisites	Student in Medical Education Specialization or Permission of Instructor		
Faculty	Cumming School of Medicine, Graduate Science Education		
Instructor Name(s)	Dr. Tanya Beran	**Email**	tnaberan@ucalgary.ca
Office Location	TRW – 3rd Floor	**Office Hours**	Appointments may be set up via email
Instructor Email Policy	I will respond to e-mails as soon as possible during weekdays.		
Telephone No.	403-220-5667		
TA Name	N/A	**Email**	
Class Term, Days	Fall 2020, September 9 – December 2, 2020 – Wednesday		
Class Times	9-11:50am		
Class Location	On-line		

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 an alternative participation activity.

COURSE INFORMATION/DESCRIPTION OF THE COURSE
This course focuses the research design in medical education including quantitative, qualitative and mixed methods designs

LEARNING RESOURCES/REQUIRED READING
1. Creswell, J. W. (2019). Educational Research: Planning, conducting and evaluating quantitative and qualitative research (6th ed.). Pearson. 2. Creswell, J. W. (2018). Qualitative inquiry and research design: Choosing among five approaches. (4th ed.). London: Sage. Specific required readings for each class are TBD. Suggested Reading/Resources:

1. Gay, L. R., Mills, G. E., & Airasian, P. (2018). Educational research: Competencies for analysis and applications (12th ed.). NJ: Pearson.

2. Cleland, J., & Durning S. 2015. Researching Medical Education. Oxford, UK: Wiley.

COURSE OBJECTIVES/LEARNING OUTCOMES

Students at the end of the course will be able to:

1) Identify strengths and limitations associated with a range of methods frequently used in medical education research
2) Describe ethical challenges inherent in conducting medical education research
3) Employ a range of project management techniques to their studies
4) Review the medical education literature using critical appraisal and apply this understanding to both scientific journal articles and research proposals
5) Develop interview guides, questionnaires, and other kinds of instruments for use in medical education research
6) Write a report for a medical education study

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

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**
Literature review and research question	The literature review (10 double spaced pages) situates the research and fleshes out the domain of the topic addressed in the introduction. Rather than merely listing relevant published work, this review should be a critical examination of theoretical and empirical research that is used to create a rationale for the purpose of the present study. To effectively organize this section, think of how research on this topic has progressed (if chronological pattern), or typically been done	40	November 11 9:00am

	(if introducing a new approach) and so on. Use studies that support your argument as well as studies that do not and explain why to further your position.		

(if introducing a new approach) and so on. Use studies that support your argument as well as studies that do not and explain why to further your position.

Also, think of a funnel: start broad and move in by narrowing down to concluding with your precise questions. Use subheadings to help organize a literature review, which may otherwise appear as an undifferentiated mass of citations. Like other sections of the proposal, expect to revise as you learn more about the topic and read more studies. When stuck, go back and re-read the articles. Find some (if available) that are most similar to your study, and use peer-reviewed journal articles or books. A literature review serves a number of functions:

Demonstrates underlying theoretical assumptions and values related to the phenomenon being studied. (5 points)

Demonstrates researcher's knowledge of prior research and intellectual traditions related to the topic at hand. (5 points)

Identifies gaps in literature that need addressing. (2 points)

Presents a clear and cogent argument. (8 points)

Pose a Maximum of 3 Research Questions. (10 points)
Once the rationale has been established, summarize the research questions (e.g., explore, confirm).
These set the parameters (delimitations) on the study.
Practical questions (e.g., program outcomes)
Descriptive questions (e.g., survey of a population)
Theory-building questions (e.g., relationships between/among characteristics)

Survey Development	Create a survey of 10 items and a codebook to show how each item is scored. Include a research question that data from the survey would be able to answer. Instructions clear (2 points) Language is appropriate (4 points) Response items appropriate (2 points) Clear explanation of scoring (5 points) Clean formatting (2 points)	30	November 18 9:00am
Evaluate the quality of research studies (2 studies)	Must make 5 comments about each section below and explain each one. Refrain from stating that the study is 'interesting', and from long descriptions of what the authors did. Rather, make a brief statement (the authors applied a mixed methods approach) and the advantage/disadvantage of this decision. Literature review (5 points) Methods (5 points) Results (5 points) Discussion (5 points)	30	November 25 9:00am

ASSESSMENT AND EVALUATION INFORMATION

ATTENDANCE AND PARTICIPATION EXPECTATIONS: Students are expected to attend class on a weekly basis prepared to present or critically analyze designated topics. This includes having read the assigned material, sharing thoughts, leading discussion or presenting, as appropriate, asking questions or leading critiques and being an active member of the classroom environment.

GUIDELINES FOR SUBMITTING ASSIGNMENTS: Assignments are due on the specified date by 9 AM

FINAL EXAMINATIONS: No

EXPECTATIONS FOR WRITING: All assignments are to be submitted to the instructor by their due dates, unless otherwise indicated in class.

LATE AND/OR MISSING ASSIGNMENTS:
- Assignments are due on the specified date by 9 AM. 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 Coordinator

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.

Is a passing grade on a particular component essential to pass the course as a whole? No

	COURSE TIMETABLE		
Course Schedule Date	**Topic & Reading**	**Instructor**	**Assignments/Due Dates & Times**
Sept 9	**Designing medical education research** **a) Introduction to medical education research** - Why do we do research in medical education? (what types of research are being done in medical education? what questions are being addressed?) - The scientific method in medical education research - Role of theory in medical education research - Different approaches to medical education research (overview of qualitative, quantitative, and mixed methods) **b) Writing research questions and hypotheses**	Dr. Tanya Beran	
Sept 16	**a) The ethics of medical education research** - Ethics review process for conducting medical education research - Informed consent and access to the research site	Dr. Tanya Beran	

	• Deception • Ethical issues in medical education research • Data security • The role of institutional scientific/ethics review boards **b) Project management in medical education research** • Organizing a project • Quality assurance (reliability checks)		

Sept 23	**Reviewing the literature**
	• Definition, purpose, and scope
	• Types of literature reviews (an overview)
	• Differences between lit reviews for qualitative and quantitative studies
	• Steps in conducting a lit review
	  - Formulating a question
	  - Where to search
	  - Managing your literature
	  - Analyzing, organizing and reporting the review
	• Critical appraisal of quantitative and qualitative research
	• Resources
		Dr. Diane Lorenzetti	

Sept 30	**The Research Process** **a) An overview of the research process** **b) The research proposal** • The Introduction • Purpose statement • Research questions and hypotheses (revisited)	Dr. Tanya Beran	

	• Methods (participants, study design, procedures, data collection and analysis) • Significance of Study • Delimitations and limitations • Budget • Timeline • Appendices		
Oct 7	**Collecting Quantitative data** • The study participants (population and sample) • Sampling techniques • Types of data and measures • Data collection instruments and procedures • Ensuring data quality • Data handling and storage	Dr. Tanya Beran	
Oct 14	**Designing the Study Part I** • **Experimental** • **Correlational**	Dr. Tanya Beran	
Oct 21	**Designing the Study Part II** **Qualitative Research Class 1** • **Introduction** to qualitative research design • From scientific curiosity to research question • Research issue and appropriate population • Elements of research design • Qualitative research traditions (phenomenology, ethnography, grounded theory, case study, etc.) • Practical examples	Dr. Bonnie Lashewicz	

Oct 28	**Designing the Study Part III Qualitative research Class 2** • Developing a qualitative research design: from method to strategies to techniques • Sampling strategies and techniques • Data collection strategies and techniques • Data analysis techniques • Rigour - considering methodological congruence and cohesion (Richards and Morse 2001)	Dr. Bonnie Lashewicz	

Nov 4	**Designing the study Part IV**
	• Survey Research
	  - Definition and purpose
	  - Survey research design (cross-sectional and longitudinal)
	  - Basics of questionnaire design (closed and open ended items and scales)
		Dr. Tanya Beran	

Nov 11	**Designing the Study Part V** • Mixed methods • Action research	Dr. Tanya Beran	**Assignment 1 Due (Literature review and research question)**
Nov 18	**Presenting, reporting, and disseminating the study results** • Audience • Structure of research reports (abstract, executive summary, body of the report, references, appendices) • Writing in a sensitive and scholarly way (i.e.,	Dr. Tanya Beran	**Assignment 2 Due (Survey development)**

	non- discriminatory language, scholarly terms, balance, truth and accuracy, interconnection of sections for consistency and logic) • Data presentation (tables, graphs, textual data, visual data • Dissemination options (selecting appropriate vehicles for dissemination, • e.g. presentations, publications, etc.) • Selecting the appropriate journal • What do reviewers consider? **Evaluating Research Part I** • General evaluation criteria • Types of specific evaluation criteria • Evaluating quantitative research • In class exercise		
Nov 25	**Evaluating Research Part II** • Analyzing data sets • In class exercise	Dr. Tanya Beran	**Assignment 3 Due (Evaluate the quality of 2 studies)**
Dec 2	**Evaluating Research Part II** • Analyzing data sets • In class exercise	Dr. Tanya Beran	

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 in 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.