



CUMMING SCHOOL OF MEDICINE
GRADUATE COURSE OUTLINE

COURSE TITLE: Administrative Data Analysis Methodology			
Course	MDCH 664		
Pre/Co-Requisites	<ul style="list-style-type: none"> Completed Biostatistics course and Epidemiology course (MDCH 610 and 640 or MDCS 643.01 and 647.01) or equivalent graduate level courses (grade B+ or above). Students who are interested in this course should <u>e-mail Dr. Quan by October 10, 2019</u>. Applicants will be interviewed by the end of Oct 2019 by instructors. Students should NOT register without the interview. Submitted half-page outline of the research project or the interested research areas that they wish to examine using administrative data. The project will be discussed with the student as to whether it is appropriate for administrative data analysis prior to enrolment. Obtained approval of their supervisors and instructors prior to enrollment in the course. 		
Faculty	Cumming School of Medicine, Graduate Science Education		
Instructor Name(s)	Dr. Hude Quan Dr. Peter Faris	Email	hquan@ucalgary.ca Peter.Faris@albertahealthservices.ca
Office Location	Dr. Quan: CHI, TRW 5 th Floor Dr. Faris: Rm 1101 South Tower FMC	Office Hours	By appointment
Instructor Email Policy	As required		
Telephone No.	Dr. Quan: (403) 210-8617 Dr. Faris: (403) 944-0705		
TA Name, if applicable	Stephanie Garies	Email	sgaries@ucalgary.ca
Class Term, Days	January 16 to April 16, 2020; Thursdays		
Class Times	9:00AM – 11:50AM		
Class Location	G384		

COURSE INFORMATION/DESCRIPTION OF THE COURSE
The course covers both analytical methodology and practical work. Most sessions will be interactive. Students will have opportunities to ask questions about lecture materials and analytical skills. Researchers or professors will be invited to present their work at certain classes. In most cases published papers will be presented and discussed. Students will also be expected to present their analyses for discussion.



Students will analyze administrative data hosted by their professors or Calgary Health Region at a protected environment. A small sample of scrambled administrative data will be provided to students for practice.

LEARNING RESOURCES/REQUIRED READING

While there are no mandatory textbooks, required and recommended papers will be available on D2L for each week. Students should also read papers based on their projects.

The following book is recommended, NOT required:

Risk adjustment for measuring healthcare outcomes, Edited by Lisa I. Iezzoni. Health Administration Press, Chicago, 2003 (3rd edition)

This book can be purchased at website or through the University Medical Bookstore located in the Health Sciences Centre.

COURSE OBJECTIVES/LEARNING OUTCOMES

The course goals are to:

- To understand features of administrative data.
- To appropriately analyze the data for health services and population health research.
- To write manuscript suitable for publication at peer reviewed journals.

This course will be offered through the Department of Community Health Sciences. Students should register for the class through the Registrar's Office. The philosophy behind this is that administrative data have been widely used for research purposes and decision making in governments. Analytic skills unique to the data are required to produce valid reports or manuscripts.

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
Written	Assignment 1: Research question and critical literature review	30	Mon, Feb 24 by 8:00AM
Written	Assignment 2: Research paper and executive summary	50	Fri, April 24 by 5:00PM
Oral	Presentations (4 in-class presentations, 5% each)	20	1) Thurs, Jan 23 2) Thurs, Feb 6 & 13 3) Thurs, Mar 19 & 26 4) Thurs, Apr 2 & 9

ASSESSMENT AND EVALUATION INFORMATION
<p>ATTENDANCE AND PARTICIPATION EXPECTATIONS: Each student is expected to participate in the in-class discussions; the course consists of a diverse group of students and we can all learn from each other's experience and knowledge. It is recommended to notify the course TA if a student is unable to attend a lecture, so that student presentations can be scheduled accordingly.</p> <p>GUIDELINES FOR SUBMITTING ASSIGNMENTS: <u>Assignment 1</u> is for writing the Introduction and Methods sections, including specifying the research question, rationale (critical literature review) and analysis plan to achieve research objectives using administrative data. Maximum length is 5 pages.</p> <p><u>Assignment 2</u> is the research paper plus an executive summary for healthcare professionals or decision makers. The research paper will consist of the Introduction, Methods, Results and Discussion (maximum 2500 words) and should follow the conventions outlined by the International Committee of Medical Journal Editors (ICMJE) (http://www.icmje.org/recommendations/browse/manuscript-preparation/preparing-for-submission.html). The executive summary will contain the Background (including Purpose), Methods, Key Findings and Conclusions / Recommendations (maximum one page).</p> <p>FINAL EXAMINATIONS: n/a</p> <p>EXPECTATIONS FOR WRITING: Assignments and presentations will be outlined at the beginning of course. All assignments must be typewritten, double-spaced with 1" margins and 12-point font, and written in formal</p>

English. Each student is encouraged (but not required) to submit the research paper to a peer-reviewed journal.

LATE AND/OR MISSING ASSIGNMENTS:

- Assignments are due on the specified date. Students who hand in assignments late will be penalized 5% per day for handing in late. Assignments that are handed in 5 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 (Reading Materials to be Posted on D2L)	Instructor	Assignments/Due Dates & Times
Jan 16	<ul style="list-style-type: none"> ▪ History of ICD & Procedure Coding ▪ Overview of admin data for res use ▪ Student Q&A ▪ Ethics for Admin Data Use 	Stephanie Garies Dr. Jeff Bakal Dr. Stacey Page	
Jan 23	<ul style="list-style-type: none"> ▪ Preceptor introductions ▪ Student Presentations 		Student Presentations (Background & Objectives, 6 mins each)
Jan 30	<ul style="list-style-type: none"> ▪ Defining Study Population, Comorbidity, Social & Clinical Variables ▪ Student Q&A Presentations (ICD9 & 10 codes in MR Dx field; procedure codes; ICD & CCI chapter grouping) 	Dr. Hude Quan	
Feb 6	<ul style="list-style-type: none"> ▪ Student Presentations (part 1 of 2) ▪ Student Q&A Presentations (Charlson comorbidities) 		Student Presentations (Methods, 15 mins each)

Feb 13	<ul style="list-style-type: none"> ▪ Student Presentations (part 2 of 2) ▪ Student Q&A Presentations (Elixhauser comorbidities) 		Student Presentations (Methods, 15 mins each)
Feb 20	<i>No Class (Reading Week)</i>		Assignment 1 due Monday, Feb 24 by 8:00AM
Feb 27	<ul style="list-style-type: none"> ▪ Admin Data Coders ▪ Data Quality Assessment ▪ Data Error Detection 	Dr. Karen Tang Stephanie Garies Dr. Mingkai Peng	
Mar 5	<ul style="list-style-type: none"> ▪ Overview of Defining Costs using Administrative Data ▪ Primary Care EMR Data ▪ Student Q&A Presentations (condition frequency by inpatient death & MR physician specialty) 	Dr. Fiona Clement Stephanie Garies	
Mar 12	<ul style="list-style-type: none"> ▪ Data Analysis: risk adjustment; O_E ratio; Hospital Standardized Mortality Ratio (HSMR); model performance assessment; calibration & discrimination 	Dr. Peter Faris	
Mar 19	<ul style="list-style-type: none"> ▪ Student Presentations (part 1 of 2) ▪ Student Q&A Presentations (modeling inpatient death & LOS) 		Student Presentations (Preliminary Results, 15 mins each)
Mar 26	<ul style="list-style-type: none"> ▪ Student Presentations (part 2 of 2) ▪ Student Q&A Presentations (O_E ratio calculation, risk adjustment rate by specialty) 		Student Presentations (Preliminary Results, 15 mins each)
Apr 2	<ul style="list-style-type: none"> ▪ Acute Care EMR Data ▪ Connect Care ▪ Student Presentations (part 1 of 2) 	Frank Lee Dr. Stafford Dean	Student Presentations (Final Analysis & Interpretation, 15 mins each)
Apr 9	<ul style="list-style-type: none"> ▪ Student Presentations (part 2 of 2) 		Student Presentations (Final Analysis & Interpretation, 15 mins each)
Apr 16, 23	<i>No Class (End of Term)</i>		Assignment 2 due Friday, Apr 24 by 5:00PM

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

COPYRIGHT

It is the responsibility of students and professors to ensure that materials they post or distribute to others comply with the Copyright Act and the University's Fair Dealing Guidance for Students (library.ucalgary.ca/files/library/guidance_for_students.pdf). Further information for students is available on the Copyright Office web page (<https://library.ucalgary.ca/copyright>)

A NOTE REGARDING INSTRUCTOR INTELLECTUAL PROPERTY

Generally speaking, 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

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.