



CUMMING SCHOOL OF MEDICINE
GRADUATE COURSE OUTLINE

COURSE TITLE:			
Course Name and Number	DATA 621: Advanced Statistical Modeling		
Pre/Co-Requisites	Data Science 602, 603 and admission to the Post-baccalaureate Certificate in Fundamental Data Science and Analytics or the Post-baccalaureate Diploma in Data Science and Analytics		
Faculty	Cumming School of Medicine, Graduate Science Education		
Instructor Name(s)	Na Li	Email	To be provided via D2L
Office Location	Remote	Office Hours	By Appointment
Instructor Email Policy	Only emails coming from ucalgary addresses will be replied to. The instructor will endeavor to reply to emails within 24 hours on weekdays.		
Telephone No.	226 700 2607		
TA Name	Frank Lee	Email	seungwon.lee@ucalgary.ca
Class Term, Days	Winter 2021 Tuesdays		
Class Times	17:00 – 19:50		
Class Location	Remote/online via D2L/Zoom Lectures will be asynchronous and tutorials will be synchronous		

This course will take place **online** via Desire2Learn (D2L) and Zoom. To best succeed in the course, students are encouraged to participate in the asynchronous learning tasks using the D2L learning environment and 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 (e.g., watch the recordings, or submit a brief reflection). There will be 6 synchronous Zoom sessions throughout the term (19:00 -19:50 on Jan 26, Feb 9, Mar 2, Mar 9, Mar 16 for live tutorials; and 17:00 – 19:50 on Apr 13 for student presentation).

COURSE INFORMATION/DESCRIPTION OF THE COURSE
A more in-depth jump into the fundamental statistical methods used in health data science including interpretation and communicating the results of these methods. Exploration of modelling using an epidemiological paradigm including the assessment for modification and confounding. Introduces fundamental health research methods including study design and its effect on the modeling to be used.

Topics include: Health research methods, review of multiple Linear Regression with model diagnostics and model selection, modeling binary outcomes: Logistic Regression and ROC analysis. Count data and rates, incidence rates, rate ratios and modeling through Poisson regression and Negative Binomial Regression. Modeling in the non-independent/clustered data setting: GEE, Mixed effects Models. Catching and modeling non-linear relationships in a linear model setting (Categorization, Smoothing Splines, etc.). Time series analysis and relevant algorithms for trend analysis, seasonality, and outlier detection.

LEARNING RESOURCES/REQUIRED READING

You will be using R Studio in this course. Please see the download instructions for [R Studio](https://rstudio.com/products/rstudio/) (<https://rstudio.com/products/rstudio/>). Select the *R Studio Desktop* option with the *Open Source License Free version* (First column option on the page).

No textbook is required per se. Readings and textbooks are recommended resources unless instructed in lecture or specifically.

Recommended resources:

1. Rothman, K., Greenland, S., & Lash, TL. (2008). *Modern Epidemiology, 3rd Edition*. Philadelphia, PA: Lippincott Williams & Wilkins (Section 1)
2. Vittinghoff, E., Glidden, D. V., Shiboski, S. C., & McCulloch, C. E. (2005). *Statistics for biology and health. Regression methods in biostatistics: Linear, logistic, survival, and repeated measures models*. New York, NY, US: Springer Publishing Co.
3. Kleinbaum, D. G., & Klein, M. (2012). *Survival Analysis: A Self-Learning Text, Third Edition*. New York, NY: Springer Science+Business Media, LLC.
4. McCullagh, P., Nelder, J. (1989). *Generalized Linear Models, Second Edition*. Chapman & Hall.
5. Gareth James • Daniela Witten • Trevor Hastie Robert Tibshirani, *An Introduction to Statistical Learning with Applications in R*: Springer New York Heidelberg Dordrecht London.
6. Wickham and Golemund, *R for Data Science*: O'Reilly Media.
7. Ben Baumer, Daniel T. Kaplan, and Nicholas J. Horton, *Modern Data Science with R*: CRC Press LLC, 2016

COURSE OBJECTIVES/LEARNING OUTCOMES

The objectives of this course are to have students be able to understand the impact and nuances of statistical modeling as it corresponds to analyzing and interpreting results for Health data. Students should be able to know the importance and concepts of confounding and effect modification, as well as techniques to assess for each, the issues these represent at time of interpretations of effects and the roles they play in modeling. Students will learn about techniques for modeling categorical outcome data, count data, time to event data, as well as learn about techniques used in case of non-independent data. Students will gain some hands-on experience on programming using R for data cleaning and statistical analysis throughout the course project.

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 session will be provided on D2L at least two hours prior to the live session. Asynchronous videos will be posted on D2L at 17:00 on the lecture dates. Assignments will be



posted at 20:00 on Jan 12, Feb 2, Mar 2, and Mar 23. Project tasks will be posted on D2L with specified due dates on Jan 19, Feb 23, and Mar 30. It is the student's responsibility to ensure that they receive all posted communications and documents and that they receive e-mails send by Na Li and Frank Lee 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/>.

The University of Calgary Cumming School of Medicine would like to acknowledge the traditional territories of the people of the Treaty 7 region in Southern Alberta, which includes the Blackfoot Confederacy (comprising the Siksika, Piikani, and Kainai First Nations), as well as the Tsuut'ina First Nation, and the Stoney Nakoda (including the Chiniki, Bearspaw, and Wesley First Nations). The City of Calgary is also home to Métis Nation of Alberta, Region III.

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 [2020-2021 Calendar](#).

Assessment Methods	Description	Weight %	Due Date and Time
Assignments (4)	Assignments will be aimed at testing understanding of course material (see below). Part of the assignment and learning is to be able to apply techniques and interpretations in different settings and hence not just to repeat exactly what was seen in class. The aim of assignments is to broaden the students' comprehension and application of material.	40	Assignment #1, Due Jan 26 17:00 Assignment #2, Due Feb 23 17:00 Assignment #3, Due Mar 23 17:00 Assignment #4, Due Apr 13 17:00
Tutorial participation	There will often be a hands-on section of the class. Participating on this and presenting results from such is expected. The participation will be evaluated by the responses to the questions/discussions during the synchronous Zoom sessions. 1% for each session.	5%	5 synchronous Zoom sessions for tutorials: 19:00 - 19:50 on Jan 26, Feb 9, Mar 2, Mar 9, Mar 16
Project and presentation	The project will aim at giving the student the opportunity to showcase the understanding of data and how it relates to situation at hand, explanation and reasoning for approach to analysis, interpretation and limitations of results and conclusions in context. The project tasks will be assigned during the term. The project shall be completed by April 23, 2021.	Project proposal 10% Detailed project statistical analysis plan and	Project proposal Due Feb 9 17:00 Detailed project statistical analysis plan and preliminary analysis Due Mar 30 17:00



		preliminary analysis 10%	
		Project presentation 10%	Project presentation will be arranged on Apr 13
		Project report 15%	Project final report Due by 11:59 pm on April 23

ASSESSMENT AND EVALUATION INFORMATION

ATTENDANCE AND PARTICIPATION EXPECTATIONS:

Students are encouraged to participate in the asynchronous learning tasks using the D2L learning environment and 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 (e.g., watch the recordings, or submit a brief reflection). The tutorial participation (via 5 synchronous Zoom sessions) is weighted at 5% for the course assessment.

GUIDELINES FOR SUBMITTING ASSIGNMENTS:

Assignments:

You will have to respond to 4 assignments which will be based on the material covered in class and in indicated readings. Assignments will be created under the assumption that you have a complete comprehension of the course material, as such, you are responsible for reviewing your assignments and making sure the material is understood.

Your assignment **must** be your own work and submitted as a pdf, word or html file written by RMarkdown; in the case of specific coding requirements, the R script or RMarkdown file is required to be submitted. The assignments shall be submitted via D2L.

Course project:

The purpose of the project is for students to be able to fully apply skills acquired during the course, propose a research question and translate it into a statistical problem, make a analysis plan and perform appropriate modeling and analysis, with all assumption checks and interpretation, as well as reporting of results. It can be based on your own data set or on data obtained from other sources. Students are encouraged to work as a group with 3 to 4 members. Each student must make a full intellectual contribution to the project and the contribution needs to be specified in the project proposal and in the final project report. Fail to specify the contributions will have direct impact on the grades.

The project will consist of four parts:

- 1) A project proposal (no more than 3 pages – Calibri 11): The proposal should include background (introduction of the research problem and motivation), research objectives/questions, data and methods, project team with planed contribution, and project timeline such as dates for team discussions.
- 2) A detailed project statistical analysis plan and preliminary analysis results (no more than 4 pages – Calibri 11): Describe in detail the statistical methods to analyze the data that can achieve the objectives defined in



the project proposal. Include preliminary analysis such as descriptive statistics to describe the study population.

3) A final project report (no more than 15 pages – Calibri 11): The final report should include background, research questions, data source description, methods, analysis results and interpretation, conclusion, and each team member’s specific contributions. The final report can use the materials written in the proposal and analysis plan.

4) Project presentation: Each team will have a 25-min oral presentation on Apr 13.

The project proposal, project statistical analysis plan and preliminary analysis, and the final report shall be submitted via D2L.

FINAL EXAMINATIONS:

There is no final examination per se, the project will be the final evaluation of the course.

EXPECTATIONS FOR WRITING:

The expectation is that all written and presented content be your own (or your project team). Refer to [section K](#) of the calendar for issues with academic misconduct such as plagiarism and others.

LATE AND/OR MISSING ASSIGNMENTS:

In the event that a student misses any course work due to illness, supporting documentation, such as a medical note or a statutory declaration will be required (see [Section M.1](#); for more information regarding the use of statutory declaration/medical notes, see [FAQ](#)). Absences must be reported within 48 hrs.

The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize themselves with these regulations. See also [Section E.3](#) of the University Calendar.

Any other late or missing work not covered by the above sections will not be accepted and hence, **there will be no makeup assignments /projects.**

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

CLASS SCHEDULE			
Course Schedule Date	Topic, Activities & Readings	Instructor	Assignments/Due Dates & Times
Jan 12, 2021	- Course overview discussion. Health research methods: Hierarchy of evidence, Stating a Research question/project, Study design, Biases, confounding, effect modification	Na Li	Assignment #1, Due Jan 26 17:00

Jan 19, 2021	- Review of descriptive statistics and statistical analysis plan - Student projects – course project requirements	Na Li	Project proposal Due Feb 9 17:00
Jan 26, 2021	- Review of linear regression in the context of previous epi concepts. - Tutorial: R programming – introduction and linear regression	Na Li R tutorial: Frank Lee	
Feb 2, 2021	- Review of logistic regression in the context of previous epi concepts. - Receive Operating Characteristic (ROC) analysis	Na Li	Assignment #2, Due Feb 23 17:00
Feb 9, 2021	- Regression methods for polytomous outcome variables. - Tutorial: R programming – logistic regression and multinomial regression	Na Li R tutorial: Frank Lee	
Feb 16, 2021	No class, Reading week		
Feb 23, 2021	- Count Data: Basic concepts, Poisson distribution, rates, rate comparisons - Q & A: Student Projects based on request (at least 24 hours in advance)	Na Li	Detailed project statistical analysis plan and preliminary analysis Due Mar 30 17:00
Mar 2, 2021	- Regression Models for Count data - Tutorial: R programming – models for Count data	Na Li R tutorial: Frank Lee	Assignment #3, Due Mar 23 17:00
Mar 9, 2021	- Time to event data, concepts, survival, hazard, Kaplan Meier - Tutorial: R programming – survival analysis	Na Li R tutorial: Frank Lee	
Mar 16, 2021	- Cox Regression Model for time to event data - Tutorial: R programming – Cox regression	Guest or Na Li R tutorial: Frank Lee	

Mar 23, 2021	- Non-independent observations (paired data, matched data, clustered data, longitudinal data) and modelling of non-independent data - Tutorial: R programming – Q & A of Student Project based on request (at least 24 hours in advance)	Na Li R tutorial: Frank Lee/Na Li	Assignment #4, Due Apr 13 17:00
Mar 30, 2021	- Time series modelling and relevant algorithms - Tutorial: R programming – Q & A of Student Project based on request (at least 24 hours in advance)	Na Li R tutorial: Frank Lee/Na Li	Project final report Due by 11:59 pm on April 23
Apr 6, 2021	Student presentation: Final project presentation	Na Li	

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>.

Equity, Diversity and Inclusion

The Cumming School of Medicine recognizes that equity, diversity, and inclusion benefits and strengthens all communities, including the medical community and those served by it. We aim to actively engage all learners, particularly those from equity seeking groups including women, Indigenous peoples, visible/racialized minorities, persons with disabilities, and LGBTQ+. While our faculty continues to learn about more equitable, diverse, and inclusive approaches to education, we welcome and appreciate suggestions to help us ensure that all learners are well served by our courses.

To help cultivate learning environments that support diverse and inclusive perspectives and lived experiences, learners are invited to let instructors know if:

- they have names and/or pronouns they would prefer to use that differ from those that appear on official records
- scheduled class meetings conflict with religious events so that alternative arrangements can be made

If they are not already, learners are also encouraged to become familiar with the various opportunities for diverse engagement, learning, and support on campus, including, but not limited to the following resources:

The Office of Equity, Diversity and Inclusion

<https://www.ucalgary.ca/equity-diversity-inclusion>

The Q Centre

<https://www.su.ucalgary.ca/programs-services/student-services/the-q-centre/>



The Writing Symbols Lodge

<https://www.ucalgary.ca/student-services/writing-symbols/home>

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/acceptable-use-of-electronic-resources-and-information-policy.pdf>

MEDIA AND RECORDING IN LEARNING ENVIRONMENTS

Media recording for lesson capture

Please refer to the following statement on media recording of students: https://elearn.ucalgary.ca/wp-content/uploads/2020/05/Media-Recording-in-Learning-Environments-OSP_FINAL.pdf

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/visual 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 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-policy.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 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 (www.ucalgary.ca/student-services/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, at www.ucalgary.ca/wellnesscentre/services/mental-health-services and the Campus Mental Health Strategy website at 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: 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: 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 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.