



## COURSE OUTLINE

### 1. **Course:** STAT 533, Survival Models - Winter 2024

Lecture 01 : MWF 10:00 - 10:50 in MS 431

Instructor	Email	Phone	Office	Hours
Dr. Hua Shen	hua.shen@ucalgary.ca	403 220-6309	MS 526	11AM-12PM on Monday and Wednesday

To account for any necessary transition to remote learning for the current semester, courses with in-person lectures, labs, or tutorials may be shifted to remote delivery for a certain period of time. In addition, adjustments may be made to the modality and format of assessments and deadlines, as well as to other course components and/or requirements, so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff).

#### **In Person Delivery Details:**

This course is being offered in-person in real time at the scheduled times, students are required to attend in-person at the same time.

To ensure privacy, please do not share any course materials with others, or on any social media platforms. The course materials including lecture notes, tutorial worksheets, assignments, exams, question banks and their answers are only intended for students registered in the course. They must not be shared, distributed or published without the instructor's permission.

Lectures - All lectures will be in-person and synchronous. Students are expected to participate regularly. The lectures will not be recorded and posted for subsequent viewing.

Tutorials - All tutorial sessions will be in-person and synchronous. Students are expected to attend regularly to interact with the teaching assistants to learn. No recorded tutorials will be available.

Midterm - The midterm exam is a take-home open-book exam to be completed in 24 hours. You have access to the course materials and statistical software during this time. All work you submit for credit must be individual, original, and free from unearned advantage.

#### **Course Site:**

D2L: STAT 533 L01-(Winter 2024)-Survival Models

**Note:** Students must use their U of C account for all course correspondence.

Students must use their U of C email account for all course correspondence and clearly state the course number in the email titles. To ensure privacy, emails from other sources will not be replied.

All course information and updates will be posted regularly on course website. You are responsible for checking the information and updates in a timely manner.

Students are encouraged to use the discussion forums in D2L for technical and scientific questions related to the course. All communications (including non-technical or personal inquiries) with instructor or teaching assistants are welcome, however, they may be shared with the class after the detailed personal information is hidden should they represent questions of interests to others. The instructor and teaching assistant will attempt to reply to student emails within three full business days whenever possible, however, certain inquiries may require additional time.

#### **Equity Diversity & Inclusion:**

The University of Calgary is committed to creating an equitable, diverse and inclusive campus, and condemns harm and discrimination of any form. We value all persons regardless of their race, gender, ethnicity, age, LGBTQIA2S+ identity and

expression, disability, religion, spirituality, and socioeconomic status. The Faculty of Science strives to extend these values in every aspect of our courses, research, and teachings to better promote academic excellence and foster belonging for all.

## 2. Requisites:

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

### Prerequisite(s):

Statistics 429.

### Antirequisite(s):

Credit for Statistics 533 and either 633 or 433 will not be allowed.

## 3. Grading:

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar.

In determining the overall grade in the course the following weights will be used:

Course Component	Weight	Due Date (duration for exams)	Modality for exams	Location for exams
Assignment 4 <sup>1</sup>	10%	Ongoing		
Assignment 1	10%	Feb 02 2024		
Assignment 2	10%	Feb 16 2024		
Assignment 3	10%	Mar 08 2024		
Midterm Exam <sup>2</sup>	30%	Mar 22 2024 at 10:00 am (24 Hours)	online	At Home
Final Project	30%	Apr 14 2024		

<sup>1</sup> Group Reading, TBD

<sup>2</sup> It is an open-book take-home exam. Complete work will be submitted via D2L.

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum % Required	95 %	90 %	85 %	80%	76%	72 %	68 %	64%	60%	55 %	50 %

The University of Calgary offers a [flexible grade option](#). Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade>

## 4. Missed Components Of Term Work:

In the event that a student legitimately fails to submit any online or in-person assessment on time (e.g. due to illness, domestic affliction, etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date, or possible exemption and reweighing of components. Absences not reported within 48 hours will not be accommodated. Students may be asked to provide supporting documentation ([Section M.1](#)) for an excused absence, See [FAQ](#).

If an excused absence is approved, options for how the missed assessment is dealt with is at the discretion of the coordinator or course instructor. Some options such as an exemption and pro-rating among the components of the course may not be a viable option based on the design of this course.

Assignments – Because of the frequency of tests and assignments in this course, late assignments create a big problem for the prompt return of graded work and distribution of answer sheets. Therefore, late assignments will be penalized heavily (50% per day including weekends and holidays or prorated accordingly) to prompt timely submissions. Assignments are deemed late if they are submitted after 11:59PM on the day they are due.

Midterm - Students can request a makeup midterm exam should it be missed for legit reasons. The request needs to be submitted before or within two days after the scheduled midterm exam. Makeup exam should occur within five business days after the scheduled exam to prevent delay in releasing the answers to others in the class.

All assigned work should be completed when due. Due dates for all assigned work will be indicated clearly on the handout and/or course website. Arrangements for late submission must be made with the instructor, BEFORE the assigned work is due. Any student who fails to complete the work for legitimate reasons (e.g., illness, religious conviction, technical issues) must discuss with the instructor BEFORE classes end.

## 5. Scheduled Out-of-Class Activities:

The following out of class activities are scheduled for this course.

Activity	Location	Date and Time	Duration
Midterm Exam	Take-home	Friday, March 22, 2024 at 10:00 am	24 Hours

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.** If you have a conflict with the out-of-class-time-activity, please contact your course coordinator/instructor no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made.

## 6. Course Materials:

### Recommended Textbook(s):

J.P. Klein and M.L. Moeschberger, Survival Analysis: Techniques for Censored and Truncated Data, 2nd Edition: Springer.

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

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

For more information please refer to the UofC [ELearning](#) online website.

## 7. Examination Policy:

Parts of the exam which involve extensive computation and require computers in the lab may be open-book, where lecture notes, lab worksheets, formula sheets, computers and calculators are permitted. Parts of the exam concerning theory and simple calculations are closed-book tests, where only scientific calculators are permitted.

Students should also read the Calendar, [Section G](#), on Examinations.

## 8. Approved Mandatory And Optional Course Supplemental Fees:

There are no mandatory or optional course supplemental fees for this course.

## 9. Writing Across The Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

## 10. Human Studies Statement:

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

## 11. Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work [form](#) to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the University Calendar

b. **Final Exam:**The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

## 12. Other Important Information For Students:

a. **Mental Health** 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 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, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).

b. **SU Wellness Services:** For more information, see their [website](#) or call [403-210-9355](tel:403-210-9355).

c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email ([svsa@ucalgary.ca](mailto:svsa@ucalgary.ca)) or phone at [403-220-2208](tel:403-220-2208). The complete University of Calgary policy on sexual violence can be viewed [here](#).

d. **Student Ombuds Office:** A safe place for all students of the University of Calgary to discuss student related issues, interpersonal conflict, academic and non-academic concerns, and many other problems.

e. **Student Union Information:** [SU contact](#), Email your SU Science Reps: [science1@su.ucalgary.ca](mailto:science1@su.ucalgary.ca), [science2@su.ucalgary.ca](mailto:science2@su.ucalgary.ca), [science3@su.ucalgary.ca](mailto:science3@su.ucalgary.ca).

### f. Academic Accommodation Policy:

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Jerrod Smith by email [jerrod.smith@ucalgary.ca](mailto:jerrod.smith@ucalgary.ca) preferably 10 business days before the due date of an assessment or scheduled absence.

g. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)  
[Student Academic Misconduct Policy and Procedure](#)  
[Faculty of Science Academic Misconduct Process](#)  
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

h. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

i. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.

j. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the

Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.

**Course Outcomes:**

- describe the concepts and terminologies of survival models
- derive statistical models and mathematical formulas for survival analysis
- command advanced statistical knowledge and techniques in estimation, evaluation, computation and selection of survival and actuarial models
- identify applications with time to event or survival outcomes
- integrate the knowledge and techniques in statistical inference and probability models to interpret survival models
- apply the acquired theory of survival analysis and computer software to analyze statistical data arising from life science, insurance, and financial markets

Electronically Approved - Jan 02 2024 12:39

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**Department Approval**

Electronically Approved - Jan 03 2024 09:29

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**Associate Dean's Approval**