

Faculty of Science Course Syllabus (Section A)
Department of Mathematics and Statistics
Actuarial Models I – STAT 3703 / ACSC 3703
Winter 2019

Instructor: Dr. Gábor Lukács *lukacs@dal.ca* 201 Chase Building
Lectures: Monday, Wednesday, and Friday 09:35 - 10:25 319 Chase Building
Office hours: Monday 16:30 - 17:30
Wednesday 11:00 - 12:00
by appointment

Course Description

This class builds on the material in STAT 3360 to develop the theoretical basis for construction and evaluation of actuarial models. Topics covered include survival models, probability distributions, deductibles and limits, and aggregate loss models, with application to insurance.

Course Prerequisites

STAT 3360.03 OR MATH 3360.03

Course Objectives/Learning Outcomes

Covering part of the syllabus of the Construction and Evaluation of Actuarial Models exam of the Society of Actuaries.

Course Materials

Textbook: “Loss Models: From Data to Decisions” by Stuart. A. Klugman, Harry H. Panjer, and Gordon E. Willmot, 4th Edition, 2012, John Wiley & Sons (ISBN: 978-1-118-31532-3).

Website: On Brightspace.

Additional Sources

“A First Course in Probability” by Sheldon Ross, 8th or 9th Edition, Prentice Hall

“[Advanced Probability](#)” by Alexander Sokol and Anders Rønn-Nielsen, Department of Mathematical Sciences, University of Copenhagen

Course Content

We will cover most of the material in Chapters 1-8 in the textbook. If time permits, we will also cover select topics from Chapter 9.

Course Assessment

Component	Weight (% of final grade)	Date
Midterm exam	$\left\{ \begin{array}{l} 30\% \text{ if midterm} > \text{final} \\ 10\% \text{ if midterm} \leq \text{final} \end{array} \right.$	Feb. 13, 2019 at 17:00
Final exam	$\left\{ \begin{array}{l} 50\% \text{ if midterm} > \text{final} \\ 70\% \text{ if midterm} \leq \text{final} \end{array} \right.$	(Scheduled by Registrar)
Assignments (best $n - 1$ of n)	20%	$E[n] = 5$

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (<50)
A- (80-84)	B- (70-72)	C- (55-59)	

Course Policies

Collaboration: Collaboration is strictly prohibited. Treat your assignment and exam solutions as sensitive, confidential documents—**do not** share them with others. If you are unable to attend the lecture and someone else hands in your assignment for you, put your assignment in a **sealed, signed envelope**.

Assignments: All assignments are to be submitted at the lecture. Unexcused late assignments will be assigned a **zero** mark even if they are marked for feedback purposes.

If you are unable to submit your assignment on time due to illness or other exceptional circumstances, please contact the instructor right away to discuss alternate arrangements (extension or transfer of weight to other components).

Missed midterm: Dalhousie students are asked to take responsibility for their own short-term absences (3 days or less) by contacting their instructor by phone or email **prior** to the academic requirement deadline or scheduled time and by submitting a completed Student Declaration of Absence to their instructor in case of missed or late academic requirements. Only 2 separate Student Declaration of Absence forms may be submitted per course during a term. Alternate arrangements will be made on a case-by-case basis at the instructor's discretion.

Missed final: You are expected to contact the instructor as soon as you realize that you are unable to make it to the final exam. A medical certificate or other documentation may be required. Alternate arrangements will be made on a case-by-case basis in accordance with Dalhousie's applicable policies.

**Faculty of Science Course Syllabus (Section B)
Actuarial Models I – STAT 3703 / ACSC 3703****University Policies and Statements**

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion - Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness.

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/native.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Missed or Late Academic Requirements due to Student Absence (policy)

https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html

Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>