

SPRING 2015 - ACMA 315 D100

CREDIBILITY THEORY (3)*Class Number: 2851 Delivery Method: In Person***COURSE TIMES + LOCATION:**

Mo 10:30 AM – 12:20 PM
AQ 4120, Burnaby

We 10:30 AM – 11:20 AM
BLU 10011, Burnaby

EXAM TIMES + LOCATION:

Apr 23, 2015
3:30 PM – 6:30 PM
BLU 10021, Burnaby

INSTRUCTOR:

Cary Tsai
cltsai@sfu.ca
778-782-7044
Office: SCK-10563

PREREQUISITES:

Prerequisite: : STAT 285.

Description

CALENDAR DESCRIPTION:

Limited fluctuation credibility theory: full credibility, partial credibility. Greatest accuracy credibility theory: the Bayesian methodology, the credibility premium, the Buhlmann model, the Buhlmann-Straub model, exact credibility, linear versus Bayesian versus no credibility. Empirical Bayes parameter estimation: nonparametric estimation, semiparametric estimation, parametric estimation. Simulation: basics of simulation, simulation in actuarial modeling. Covers part of the syllabus for Exam C of the Society of Actuaries, and Exam 4 of the Casualty Actuarial Society. Quantitative.

COURSE DETAILS:**Course Outline:**

This course studies the subject of Credibility Theory. The topics covered correspond to Sections 15.1 and 15.3 and Chapters 17-19 of the required text. They include the following:

Credibility Theory:

- Limited fluctuation credibility
- Bayesian credibility: non-parametric and semi-parametric
- Bühlmann and Bühlmann-Straub models
- Conjugate priors

Grading

Assignments

10%

Midterm

40%

Final

50%

NOTES:

All grading is subject to change.

Materials

REQUIRED READING:

Required Text:

Loss Models: From Data to Decisions, 4th Edition, 2012, S.A.Klugman, H.H. Panjer and G.E. Willmot; publisher.

RECOMMENDED READING:

-*Foundations of Casualty Actuarial Science* (4th Edition), 2004, H.C.Mahler and C.G. Dean

-*Introduction to Credibility Theory* (3rd Edition), 1999, T.N.Herzog

-ACTEX ACTEX Study Manual for SOA Exam C and CAS Exam 4, by S.A.Broverman, Publisher: ACTEX

DEPARTMENT UNDERGRADUATE NOTES:

Students with Disabilities:

Students requiring accommodations as a result of disability must contact the Centre for Students with Disabilities 778-782-3112 or csdo@sfu.ca

Tutor Requests:

Students looking for a Tutor should send an email to stat@sfu.ca with "Tutor Request" in the subject line. Please only include information that you would like forwarded to our tutors mailing list (contains people external to the University). We accept no responsibility for the consequences of any actions taken related to tutors.

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Each student is responsible for his or her conduct as it affects the University community. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University. Furthermore, it is unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University. <http://www.sfu.ca/policies/gazette/student/s10-01.html>

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