

The Hebrew University of Jerusalem

Syllabus

statistical methods in insurance - 52613

Last update 07-08-2017

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: statistics

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: Mt. Scopus

Course/Module Coordinator: Prof. Benjamin Yakir

Coordinator Email: msby@huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Prof Benjamin Yakir
Prof Offer Kella

Course/Module description:

This course introduces the central statistical models that are applied by actuary in the insurance industry. The course is based on reading the unit CT6 that is part of the examination system of the Britain's Institute and Faculty of Actuaries.

Course/Module aims:

The main aim is to introduce some of the applications of statistics in the insurance industry. A secondary aim is to help students who consider taking the actuary examinations in their preparations.

Learning outcomes - On successful completion of this module, students should be able to:

- 1. Demonstrate the understanding of the concepts that appear in the Core Reading of CT6 papers that are listed below.*
- 2. Solve problems from old CT6 exams.*

Attendance requirements(%):

No attendance requirement.

Teaching arrangement and method of instruction: The students are expected to read the relevant part of the Core Reading before the lecture. In class we will discuss the material, give examples of applications, and solve the previous week's homework assignment. The homework assignment for the subsequent week will be handed. This assignment will be based on questions from old exams.

Course/Module Content:

Decision theory, Loss distributions, risk models, ruin theory, Bayesian statistics, credibility theory, analysis of run-off triangles, generalized linear models, time series models, Monte Carlo simulation.

Required Reading:

All units of CT6.

Additional Reading Material:

Loss Models: From Data to Decision, by S.A. Klugman, H.H. Panjer, and G.E. Willmot, John Wiley and Sons.

Course/Module evaluation:

End of year written/oral examination 60 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 0 %

Reports 0 %

Research project 0 %

Quizzes 40 %

Other 0 %

Additional information:

During the course there will be 4 exams. These exams will be computerized and will be based on past CT6 examinations. The score of each these exams will determine 10% of the final score. (The score for an exam is the larger between the mark of the final exam and the mark that was assigned to the exam).

The final exam and the computerized exams are in English. Answers can be submitted in Hebrew.