

40055 Actuarial Mathematics I (4)

Knowledge

Should learn topics from survival models, stochastic analysis of annuities and life insurance and casualty models.

Application

Students will solve the problems from the subject.

Analysis

Students will apply methods of probability theory and differential equations to stochastic analysis of annuities and life insurance and casualty models.

Synthesis

The heavy dependence of the of life contingency theory on probability theory and ordinary differential equations provides the students with opportunities to integrate these tools into the formulation of practical models that arise naturally in the study of risk. Key methods of ODE and probability will be reviewed as necessary and appropriate.

Evaluation

Students are evaluated based on homework assignments and midterm and final examinations. Both homework and examinations will include the numeric solution of applied problems as well as the derivation of theoretical results.

Class Activities

Students are required to present both theoretical derivations of important theorems and numerical solutions of practical problems in class. Their presentations are critiqued both for mathematical correctness and for clarity of presentation.

Out of class Activities

Out of class activities include the solution of numerical applied problems and proof of theoretical results.