

4.1. Title: **Mathematical models of retirement and medical insurance**
(system analysis)

4.2. Annotation of educational discipline: the study of the models that are used for the modelling of the duration of human life, properties of the survival function, the intensity of mortality, residual life and other fundamental characteristic of life. Introduction to the basic characteristics of mortality tables. Analysis of insurance. The study of the major types of financial rents. Consideration of the property of insurance annuities. Specific types of insurance and annuities. Basic models of financing schemes. Models of funded pensions provided by the Law of Ukraine "On Compulsory Pension Insurance". Calculation of net premiums for long-term medical insurance.

4.3 Type: discipline of the free choice of the student (in blocks)

4.4. Duration: 8th semester

4.5. Number of credits: 2 credits

4.6. Lector's full name: associate professor Alexander A. Chechelnitsky

4.7. The goal of the educational discipline: the study of methods of mathematical modelling of human longevity, the definition and adoption of key features of the financial flows resulting from random duration of human life. Getting the skills of creative application of acquired knowledge to applied problems of the social sphere, requiring financial and probabilistic analysis.

4.8. Previous requirements: mathematical analysis essentials, probability theory and mathematical statistics basic concept.

4.9. Professing methods: lectures.

5.0. Rating methods: module-rating system. Each semester results are estimated over 100-poits scale. The course ends by test.

5.1. Language: Ukrainian.