

Discipline: Probability Theory and Mathematical Statistics

Annotation

Volume: 4 ECTS, 144 academic hours.

Final control form: exam

Summary. Probability theory is a mathematical discipline that studies the regularities of random phenomena, random events, random variables, their properties and operations on them. Mathematical statistics develops mathematical methods of systematization and use of statistical data for scientific and practical conclusions.

Mathematical statistics is based on probability theory, which allows us to assess the reliability and accuracy of conclusions made on the basis of data. In addition to general mathematical significance, these disciplines have a wide range of applications both in the natural sciences and in the humanities.

The aim of the discipline: mastering the necessary mathematical apparatus, with the help of which theoretical and experimental models of objects of professional activity are developed and investigated.

The objectives of the discipline:

- development of mathematical thinking skills;
- education of mathematical culture;
- development of skills in using mathematical methods and fundamentals of mathematical modeling in practical activities.

Connection with other disciplines of the specialty: the course "Probability Theory and Mathematical Statistics" is interconnected with such disciplines of the specialty "Economics" as "Mathematical Analysis", "Linear Algebra", "Operations Research" and "Financial Mathematics".

Requirements for the initial levels of knowledge and skills of students: the student should know and be able to use the basic concepts and methods of probability theory and mathematical statistics; know the geometric meaning of the basic concepts of mathematics; have an idea of mathematical modeling.

The volume of the discipline is 144 academic hours (4 ECTS). The course is designed for 36 hours of lectures and 36 hours of practical classes, as well as 72 hours of independent work of students, which will consist of homework and preparation for intermediate controls.