DESCRIPTION OF STUDY MODULE[*]

Study programme	**Applied Informatics and Programming**		

Study module	**MATHEMATICS**	**Credits in total**	**6**

Learning outcomes
− To apply theoretical knowledge and to demonstrate the understanding and application of mathematical concepts in order to solve problems in different situations, including the real-life context.   − To solve problems applying mathematical methods and identifying situations and describing them mathematically as typical or determining and justifying their correlations.   − To use mathematical language orally and in writing when generating mathematical ideas, justifying and reasoning them and drawing adequate conclusions.   − To critically assess the efficiency of the methods used and findings (results) obtained in a specific situation.
Aims of study module
The aim of the subject is to systematize the knowledge of mathematics gained at school, to familiarize students with the terminology of linear algebra and mathematical analysis, simbols and methods.
Annotation of a study module
The course in mathematics analyses the theory of matrix and determinants, linear equation systems and their solution methods. Students form and analyse linear models of problems related to management and economics. They are introduced to the basics of the theory of limits, differential and integral calculus methods. Students analyse the definite integral, its calculation and application. Upon the completion of the course, students perceive the essence of practical application of complex mathematical methods.
Topics of the subject
1. Matrix algebra   2. System of linear equations   3. Functions and its limits   4. Interpretation of limits.   5. Derivative   6. Indefinite integral   7. Definite integral
Procedure for assessment of knowledge and competences
Student progress is assessed in a 10-point criterion-cumulative assessment system: three Practical assignments make 0.45 (each 0.15), and Examination - 0.55 of the final assessment grade, which is calculated by the weighted average method. The final evaluation of the knowledge acquired during the course is calculated only subject to completion of all self-work assignments and having received their positive evaluations/grades. G = PA1 x 0.15 +PA2 x 0.15 + PA3 x 0.15 + E x 0.55
Main literature
1. Pekarskas, V. (2008). *Trumpas matematikos kursas*. Kaunas. Technologija.   2. Janušauskaitė, S., Marčiukaitienė, A. (2008). *Tiesinė algebra ir matematinė analizė*. Kaunas. Technologija.   3. Kaulakytė, K., Kriauzienė, R. (2011). *Tiesinės algebros ir matematinės analizės pagrindai*. Vilnius. MRU.

---

[*] Short form