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| Discipline „discrete structures”, code: 13 |
| Annotation: the Discrete Structures course is dedicated to the second year students in Software and Internet Technologies. Students are familiarized with the theoretical knowledge in informatics. The main objectives and tasks are ⬩ understanding of the basics of the discrete systems; and ⬩ to give the students knowledge and skills in ⬝ Analysis and synthesis of formal means for describing discrete systems; ⬝Analysis and synthesis of abstract machines for the representation of discrete systems; ⬝ Formalizing practical problems, describing them with discrete systems and solving them with programming tools. |
| Main issues of the syllabus content:* Theoretical foundations of informatics
* Set theory, relations and functions
* Regular sets and expressions
* Formal grammars and expressions
* Approaches for synthesis and analysis of formal grammars and languages
* Theory of algorithms
* Abstract automata, data structures and programs for their implementation
* Turing machine
* Theory of graphs
* Parallel systems and processes. Parallel systems description models
* Mathematical logic
* Resolution method
* Python logic programming language
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