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| Discipline „programming fundamentals-2”, code: 10-a |
| Annotation: the discipline “Programming Fundamentals-2” is oriented towards the fundamental training of the students of the specialty of SIT. The discipline is based on C++ to solve mathematical problems, including solving of tasks in rational programming. The main tasks are related to the obtaining of knowledge and skills for: ⬩ Basic input and output techniques in C++; ⬩ Pointers. Pointer operations; ⬩ Functions; ⬩ Strings; ⬩ Bitwise operations; ⬩ Whole numbers. Presentation in decimal and binary numeral systems. Prime numbers. Mercenne end perfect numbers; ⬩Recursion and iteration: the greatest common divisor; the least common multiple; ⬩ Combinatorics, algorithms: permutations, variations, combinations; ⬩ Dynamic optimization; ⬩ Vector operations, geometric primitives. |
| Main issues of the syllabus content:   * Program algorithms and methods for their description * The principles of programming and designing application programs * Presentation of information and basic types and structures of data in high-level programming languages * Work with available software written on C/C++/C# * Creating programs in C/C++/C# * Object-oriented programming |