**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

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| **Title of a course** | **Fundamentals of Procedural Programming** | | | | |
| **Study programme** | **Professional undergraduate study Telematics** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 1 | **Semester** | W | **ECTS credits** | 6 |
| **Goals of a course** | | | | | |
| The aim of the course is to enable students to analyze the problem and apply the basic concepts in creating a computer program in a procedural programming language. | | | | | |
| **Conditions for enrolling course** | | | | | |
| No conditions | | | | | |
| **Expected learning outcomes on a level of a course** | | | | | |
| 1. Analyse the set problem and set an algorithm solution with a pseudocode or block diagram. 2. Apply a linear and branched algorithm structure in a computer program 3. Apply a repeating algorithm structure in a computer program 4. Create a structured program code 5. Apply complex data types and work with files in creating a computer program | | | | | |
| **Content of a course** | | | | | |
| Features of programming languages. Compiler, interpreter and virtual machine. Programming fundamentals – syntax and notation (diagrams and syntaxes). Development of programming languages (direct, procedural, structural, objective). Structural and modular programming and functional decomposition of programs. Variables, data types, constants. Complex data types (fields, structures), operating with files. Control structures (sequencing, selection, multiple selection, repetition, structural programming). Top-down method and pseudo code for algorithm building and expressing of algorithm solutions in the form of computer programs. | | | | | |