**Course Syllabus**

Academic year: 2020-2021

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| Institution | University of Petroşani |
| Faculty | Mechanical and Electrical Engineering |
| Field of study | Computers and Information Technology |
| Level | Bachelor |
| Program of study | Computers Engineering |

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| Course | **Formal languages and translators** |
| Code | 2CC6OD41 |
| Year of study (semester) | III (I) |
| Number of hours | 70 |
| Number of credits | 4 |
| Professor | Lecturer, Ph.D. Riurean Simona |

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| **No.** | **Topic** |
| 1 | Introduction. The structure of a compiler. Compilation phases |
| 2 | Elements of formal language. Defining a language. Syntax. Semantics. Grammars. Regular expressions. Formal methods for specifying syntax |
| 3 | Lexical analysis. The role of lexical analysis, Error handling. Lexical symbols. Transition diagrams |
| 4 | Syntactic analysis. The role of syntactic analysis. Error handling. Recursive and non-recursive descending parsing |
| 5 | Syntax-driven translation. Semantic analysis. Syntax-driven definitions. Translation schemes |
| 6 | Type checking. Type expressions. Defining a type checker |
| 7 | Recap and Preparation for the exam |