

**Course title: Compilers**

**Course code: 63265**

**ECTS: 6**

**Professor: Boštjan Slivnik**

**Undergraduate program**

**Prerequisite knowledge :**

Knowledge gained at the courses with the outcome which can be compared to courses at FRI

- Programming 1 (Java) and Programming 2 (C)
- Principles of Programming Languages (optional)
- Computer Architecture & Computer Organization
- Algorithms and Data Structures 1 & 2
- Computability and Complexity (the complexity part is optional)

**Short course description:**

The course covers the techniques needed to implement a compiler for an imperative programming language, e.g., C. It consists of the following: Introduction, Lexical Analysis, Parsing, Abstract Syntax, Semantic Analysis, Activation Records, Translation to Intermediate Code, Basic Blocks and Traces, Instruction Selection, Liveness Analysis, Register Allocation, Constructing a Compiler.

During the semester, each student is expected to write their own compiler that translates a small imperative language into a RISC assembly code. To make the implementation easier, the backbone of the compiler and its phases is provided.