

COURSE DETAIL

IMPLEMENTATION OF PROGRAMMING LANGUAGES

Country

Denmark

Host Institution

University of Copenhagen

Program(s)

University of Copenhagen

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Computer Science

UCEAP Course Number

130

UCEAP Course Suffix**UCEAP Official Title**

IMPLEMENTATION OF PROGRAMMING LANGUAGES

UCEAP Transcript Title

IMPLEMENT PROG LANG

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course provides insight into how programs written in high-level language are implemented on a computer. It covers various elements of interpretation and translation of programming languages: lexical analysis, syntax analysis, type checking, interpretation, code generation, register allocation, and storage management. It reviews the basic methods for implementing these elements, including the use and operation of semi-automatic tools. In connection with lexical analysis and syntax analysis, the course demonstrates how descriptions that are convenient for people (respectively, regular expressions and context-free grammar) are transformed into automata that are convenient for machines. These transformations are the foundation for tools that can automatically produce lexical analyzers and syntax analyzers based on descriptions. In connection with the generation of intermediate and machine code, the course reviews how machine code can be generated on the basis of the syntactic structure of a program and presents different methods for optimizing code.

Language(s) of Instruction

Danish

Host Institution Course Number

NDAB16006U

Host Institution Course Title

IMPLEMENTATION OF PROGRAMMING LANGUAGES

Host Institution Campus

Host Institution Faculty

Science

Host Institution Degree

Bachelor

Host Institution Department

Computer Science

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