



## Faculty of Applied Sciences

### INGI2132 Languages and translators

[30h+30h exercises] 5 credits

This course is not taught in 2006-2007

This course is taught in the 2nd semester

**Teacher(s):** Baudouin Le Charlier (coord.), Peter Van Roy  
**Language:** French  
**Level:** Second cycle

#### Aims

- To understand and explain in a practical way the structure of compilers dealing with algorithmic languages
- To design and implement a compiler for a practical language which solves a interesting problem
- To show the interest of compiling techniques in problem resolving
- To carry individually a project of reduced size through

#### Main themes

- Methods to analyze context-free languages, upstream and downstream methods
- Generators of lexical analyzers and parsers
- Statistical semantics and attributed grammars
- Methods to translate a source code in a target code, and generation of target code

#### Content and teaching methods

see "Main themes"

#### Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

- Prerequisites

(1) SINF1122 would be an advantage

(2) good knowledge of Java

- References

Recommended readings

(1) N. Wirth , "Compiler Construction" , Addison-Wesley , 1996, 0-201-40353-6.

(2) Robin Hunter, "The design and construction of compilers" , Wiley, 1981.

(3) A. V. Aho, R. Sethi, and J. D. Ullman, "Compilers: Principles, Techniques, and Tools" , Addison-Wesley , 1986.

(4) A. V. Aho, R. Sethi, and J. D. Ullman, "Compilateurs: principes, techniques et outils" , InterEditions, 1989.

(5) R. Wilhelm and D. Maurer, "Compiler Design" , Addison-Wesley , 1995.

- Organization

A project should be performed individually

#### Other credits in programs

**MATH22/G**      Deuxième licence en sciences mathématiques      (5 credits)