Faculty of Applied Sciences

INGI2132	Languages and translators

[30h+30h exercises] 5 credits

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) LINF2121 Algorithmique et structures de données P. Dupont
(2) INGI2131 Concepts des langages informatiques P. VanRoy
(NB : the second prerequisite can be followed at the same time as this course)
- 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

Programmes in which this activity is taught

INFO2	Ingénieur civil informaticien
LINF2	Licence en informatique
LING2MS	Master en linguistique, à finalité spécialisée en ingénierie linguistique

Other credits in programs

INFO21	Première année du programme conduisant au grade d'ingénieur civil informaticien	(5 credits)	Mandatory
LINF21/GN	Première licence en informatique (informatique générale)	(5 credits)	Mandatory
LINF22/GS	Deuxième licence en informatique (informatique de gestion)	(5 credits)	
LING2MS	Master en linguistique, à finalité spécialisée en ingénierie linguistique	(5 credits)	
MATH22/G	Deuxième licence en sciences mathématiques	(5 credits)	