

Langages de programmation 2

Lecturer

John IACONO (Coordinator)

Course mnemonic

INFO-F202

ECTS credits

5 credits

Language(s) of instruction

French

Course period

First term

Campus

Plaine

Course content

Programming languages evolution and categories.

Object oriented topics: encapsulation, abstraction, genericity (templates), composition, single and multiple inheritance, overloading, overriding, polymorphism, static or dynamic linkage, exceptions, metaprogramming, threads.

In depth study of C++

Comparison with other languages.

Objectives (and/or specific learning outcomes)

Capacity of self-study of programming languages. Use and understanding of general concepts of programming languages. Student would be able to use object oriented programming style in C++ and their standard library.

Pre-requisites and co-requisites

Pre-requisites courses

INFO-F101 | Programmation | 10 crédits and INFO-F105 | Langages de programmation 1 | 5 crédits

Co-requisites courses

INFO-F103 | Algorithmique 1 | 10 crédits

Required knowledge and skills

Basic skills in C++ programming (not object oriented)

Teaching method and learning activities

Course will be given in the mode of "flipped classroom." Lectures will be partially delivered via video, and partially in sessions where students will be coding.

Contribution to the teaching profile

Knowledge of computer programming concept and programming languages.

Applying these concepts in developing programming projects.

Analysis of underlying mechanisms and of interactions between them. Inductive empirical approach (trial and error) and deductive approach.

Direct access to information sources (standards and publications).

Presentation an explanation of projets and personal work.

References, bibliography and recommended reading

Robert W. Sebesta, « Concepts of Programming Languages », 10th ed., Pearson International Inc., 2012.

Margaret A. Ellis et Bjarne Stroustrup, "The Annotated C++ Reference Manual", Addison-Wesley, Reading(MA), 1990, 446 pages.

Other on-line reference through Virtual University Web site, and text book (2 vol.)

Course notes

Syllabus and Université virtuelle

Other information

Place(s) of teaching

Plaine

Contact(s)

John Iacono

Evaluation method(s)

written examination and Project

Main language(s) of evaluation

French

Other language(s) of evaluation, if applicable

English

Programmes

Programmes proposing this course at the faculty of Sciences

BA-INFO | Bachelor in Computer science | unit 2, BA-MATH | Bachelor in Mathematics | unit 3 and MA-ACTU | Master in Actuarial Science | finalité Professional/unit 1