Programming and data structures

Programming and data structures						ECTS	3	SEMESTER	5
5JUC\$N03			lectures	classes / seminars	practical work	integrative teaching	independent work		
					10h	20h	Oh	Oh	30h
Language used		French							
Course supervisor(s)	Pierre-Etienne Moreau blocked URL and Guillaume Bonfante blocked URL R ⁶								
Key words	Data numerical encoding, databases, algorithmic, programming languages								
Prerequisites	The scientific undergraduate level is sufficient								
Overall objective									
Learn to design algorithms and implement them									
Course content and organisation									
Level to be reached: Know the vocabulary that characterizes a programming language (interpreted, compiled, variable scope, typing, instructions, etc.) Be able to choose adequate data structures to solve a problem Be able to model information in the form of data structures Be able to model information in the form of data structures Be able to model information in the form of data structures Content - Program characteristics of a programming language basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (integers, strings, tuples), memory model, namespace and instructions basic data types (intege									
Know	The fundamental aspects of computer science: notion of coding, notion of algorithmic, notion of syntax								
Understand	Memory representation of information. Notion of value, notion of variable. Semantics of an algorithm								
Apply	Programming via a language like python. Mastery of a programming environment: editing, execution, debugging, project organization, synthesis of executables								
Analyse	Definition of representation, specification of the problem, functional analysis of problems								
Summarise	A computer solution for elementary problems.								
Access									
Assess									
Compliance with the United Na	tions Sustainable I	Development Goals			1			1	
1 de pauvreté Transformation 10 infeautrés C C C C C C C C C C C C C C C C C C C	2 EAM 2 -ZZRO ULLES ET COMMUNAUTÉS DURABLES DURABLES	BONNE S. FT BIEN-4	ANTÉ TRE AUXITION ISABLES O	4 ÉDUCATION DE QUALITÉ DE QUALITÉ	- 6 - 1!	LU PROPRE ET ASSUMISSEMENT VIE TERRESTRE	6 PARAGIE PROPRE ET D'UN COUT ABORDABLE	8 TRAVAIL DÉCENT ECONOMIQUE ÉCONOMIQUE MAINE ÉCONOMIQUE MAINE ÉCONOMIQUE ECONOMIQUE MAIN MAINE M	9 HOUSTRE INFOATOOET INFASTRUCTURE
Evalution methods									
Continuous assessment		Written test		Oral presentation / viva			Written report / proj	ect	