

7.0 credits

30.0 h + 15.0 h

2q

Teacher(s) :	Avoine Gildas ; Saerens Marco (compensates Avoine Gildas) ;
Language :	Français
Place of the course	Louvain-la-Neuve
Inline resources:	http://icampus.uclouvain.be/claroline/course/index.php?cid=SINF1250
Main themes :	The basic themes are: - Elementary mathematical structures - Proof techniques - Enumeration - Algebraic structures - Graph theory - Analysis of complexity
Aims :	- To introduce the student to the mathematics used in computer science <i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i>
Evaluation methods :	-- A project / case study accounting for 3 on 20 points. -- A written exam held in session accounting for 17 points on 20.
Teaching methods :	-- 30 hours of magistral courses. -- A project / case study on the implementation of an algorithm.
Content :	The course is constructed around the following basic topics: - Mathematical structures: finite and infinite sets, relations, functions - Proof techniques: induction, elementary logic - Enumeration: binomial coefficients, recurrences, generating functions - Algebraic structures: monoids, groups, morphisms, lattice, Boolean algebras - Graph theory: trees, paths, matchings, tours - Analysis of algorithms, polynomial algorithms, etc.
Other infos :	Pre-requisites: Mathematics I and II (or equivalent) Evaluation: Test and Written exam Material: course notes
Cycle and year of study :	> Bachelor in Computer Science
Faculty or entity in charge:	INFO