


5 credits	30.0 h + 30.0 h	Q2
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Teacher(s)	Craeye Christophe ;Peters Thomas (compensates Vitale Enrico) ;Vitale Enrico ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	<p>The course focuses on :</p> <ul style="list-style-type: none"> • the understanding of mathematical tools and techniques based on a rigorous learning of concepts favored by highlighting their concrete application, • the rigorous manipulation of these tools and techniques in the context of concrete applications. <p>Matrix calculation</p> <ul style="list-style-type: none"> • transposition, • operation on matrices, • rank and resolution of a linear system, • inversion, • determinant <p>Resolution of linear equation systems</p> <ul style="list-style-type: none"> • Matrix writing of a system of linear equations • Basic operations on the lines • Elimination of Gauss-Jordan • LU Factoring • Implementation of Linear Equation System Resolution Algorithms <p>Linear algebra</p> <ul style="list-style-type: none"> • vectors, vector operations, • vector spaces (vector, independence, base, dimension), • linear applications (applications to transformations of the plan, kernel and image), • eigenvectors and eigenvalues (including applications)
Aims	<p>Given the learning outcomes of the "Bachelor in Computer science" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes:</p> <ul style="list-style-type: none"> • S1.G1 • S2.2 <p>1 Students who have successfully completed this course will be able to:</p> <ul style="list-style-type: none"> • Model concrete problems using matrices and vectors; • Solve concrete problems using matrix calculation techniques (in particular the resolution of linear systems); • Reason using correctly the mathematical notation and methods keeping in mind but exceeding a more intuitive understanding of the concepts. <p>-----</p> <p><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></p>
Faculty or entity in charge	INFO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Bachelor in Computer Science	SINF1BA	5		
Master [120] in Data Science : Statistic	DATS2M	5		