


6.0 credits	52.5 h + 37.5 h	1q
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Teacher(s) :	Bieliavsky Pierre ; Hanert Emmanuel ;
Language :	Français
Place of the course	Louvain-la-Neuve
Prerequisites :	LBIR1110 Math I LMAT1111E Math II <i>The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.</i>
Main themes :	1st part. Linear algebra: Linear spaces and linear maps, eigenvalues and eigenvectors, quadratic forms, euclidian spaces, orthogonal projections, least squares approximations. 2nd part. Multivariable calculus: Limits and continuity, derivatives, extrema of real functions, multiple integrals, introduction to curves and surfaces, curvilinear and surface integrals, theorems of Stokes and Gauss. 3rd part. Differential equations: Generalities and classification, linear equations of arbitrary order with constant coefficients, elements on partial differential equations.
Aims :	1. To complete the basic education in mathematics, namely in linear algebra and in calculus. 2. To prepare the students to activities of integrated exercises in mathematics and 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>
Content :	This course details subjects that have been introduced in the course MATH1160 'Mathématiques générales I'. It is divided into three parts : linear algebra, differential equations and functions of several real variables. The theory is illustrated by practical exercises. This activity is coordinated with the course BIR 1201 'Exercices intégrés en mathématiques et informatique'.
Faculty or entity in charge:	AGRO

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Bachelor in Bioengineering	BIR1BA	6	LBIR1110 and LMAT1111E	
Additional module in Chemistry	LCHIM100P	6	-	