MQANT1110

2015-2016

Mathématiques de gestion 1

6.0 credits	45.0 h + 30.0 h	1q

Teacher(s) :	Lefèvre Françoise ;
Language :	Français
Place of the course	Mons
Prerequisites :	The mathematical background from a program of at least 4h mathematics in final year of school (upgrading, "Coup de pouce", given in the beginning of the year).
Main themes :	The course is in two parts, elementary infinitesimal calculus and elementary matrix calculus, with applications to economics and management.
Aims :	This course must enable students to understand the mathematics encountered in economics and management, and afterwards, to acquire the capacity to manipulate the notions studied to solve problems by themselves. *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".*
Evaluation methods :	Continuous assesment and terminal exam : exercices (with simple -nongraphic and without complete alphanumeric keyboard- pocket calculator).
Content :	Content : 1. Elementary infinitesimal calculus : 1.1 Numbers and operations 1.2 Real functions of a real variable : Defintion, graphs ' Main functions (linear, powers, polynomials, exponential and logarithms) ' Limits, continuity and derivatives ' Applications of the derivative : Study of the function variations and optimization ' Derivative of superior order ' Linear and polynomial approximations (Taylor) 'Primitives and definite integration. 1.3 Real functions of several real variables : Partial derivatives ' Three-dimensional graphical visualisation ' Unconstrained and constrained optimization ' Applications in economics and management. 2. Elementary matrix calculus : Matrices and operations on matrices ' Systems of linear equations ' Determinant and matrix inversion ' Particular matrices and determinants (Hessien, '). Methods : The lecture course, which will be illustrated by examples, will mainly aim to provide an overview of the concepts and basic techniques. In practical work, the emphasis will be on the assimilation of the basic techniques with applications to problems of economy and management.
Bibliography :	' ARCHINARD G., GUERRIEN B., Principes mathématiques pour économistes, Economica, 1992. ' SYDSAETER, K. & mp; HAMMOND, P., avec STROM, A. (2012/2014). Mathématiques pour l'économie, Pearson. ' DODGE Y. (2007). Mathématiques de base pour économistes, Springer. ' JACQUES I., Mathematics for economics and business, second edition, Addison-Wesley, 1995. ' SIMON C. P., BLUME L., Mathématiques pour économistes, DeBoeck Université, 1998.
Other infos :	Lecture notes, exercices and forums on the platform (Student Corner).
Faculty or entity in charge:	BLSM

Programmes / formations proposant cette unité d'enseignement (UE)

Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Bachelor in Business Engineering	INGM1BA	6	-	🔍
Bachelor in Management	GESM1BA	6	-	🔍