UCL Université catholique de Louvain

LLSMG2101

2015-2016

Mathematics in economics and management

5.0 credits	30.0 h + 15.0 h	1q

Teacher(s) :	Lefèvre Françoise ; Madani Mehdi ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	The course is in two parts: elementary infinitesimal calculus, and elementary matrix calculus, with applications to economics and management.
Aims :	The course must provide students with nonscientific education, a mathematical basis enabling them to follow courses of Master of Economic Sciences (ECON2M1), Master of Management Sciences (GEST2M1) or Diploma of the Second Cycle (Licence) in Economic Sciences (ECON21). *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".*
Content :	The course is in two parts, elementary infinitesimal calculus and elementary matrix calculus, with applications to economics and management. Content : 1. Elementary infinitesimal calculus : 1.1 The real functions of a real variable : Real numbers - Main functions (linear, power, exponential, logarithms) - Limits, continuity and derivatives - Study of the function variations - Optimization - Primitives and definite integration. 1.2 Real functions of several real variables : Partial derivatives - Optimization - Three-dimensional graphical visualisation. 2. Elementary matrix calculus : Matrices and operations on matrices - Systems of linear equations - Determinant and matrix inversion - Particular matrices and determinants (Hessien,). Methods : This 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.
Other infos :	Prerequisite : nothing. Evaluation : exercices (with simple -nongraphic and without complete alphanumeric keyboard- pocket calculator). Support: lecture notes and exercices with solution. References : " ARCHINARD G., GUERRIEN B., Principes mathématiques pour économistes, Economica, 1992. " JACQUES I., Mathematics for economics and business, seconde édition, Addison-Wesley, 1995. " SIMON C. P., BLUME L., Mathématiques pour économistes, DeBoeck Université, 1998.
Faculty or entity in charge:	CLSM

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [60] in Management	GEST2M1	5	-	