

Faculty of Economic, Social and Political Sciences



ESPO2101 Mathematics in economics and management

[30h+15h exercises]

Teacher(s): Françoise Lefèvre
Language: French
Level: Second cycle

Main themes

To provide students with no mathematical training, or with only a rudimentary knowledge of mathematics, with a basis enabling them to follow diploma courses on the administration of enterprises. The course is in two parts: elementary infinitesimal calculus, and elementary matrix calculus.

Content and teaching methods

1. Elements of infinitesimal calculus

1.1. The real functions of a real variable

Real numbers-main functions (linear, power, exponential, and logarithms); and limitations, continuity and derivatives

- A study of variations in functions - Searching for the extrema of a function

- Integration - Defined integrals

1.2. Elements of the analysis of two-variable functions

Partial derivatives - Extrema

- Three-dimensional graphical visualisation

2. Elementary matrix calculus

Matrixes; operations on matrixes; determinants; systems of linear equations; inversion of matrixes and Gauss elimination.

Methodology

This lecture course, which will be illustrated by examples, will mainly aim to provide an overview of the theory and basic techniques, and will not stray too far into the detail of the developments. In the practical work, the emphasis will be on applications of techniques proposed for problems of management and the economy.

Programmes in which this activity is taught

ECON2M1 Master en sciences économiques, orientation générale

GEST2M1 Master en sciences de gestion

Other credits in programs

ECGE11BA Première année de bachelier en sciences économiques et de gestion (5 credits)

ECGE12BA Deuxième année de bachelier en sciences économiques et de gestion (5 credits)