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VP054_MAN

Visiting Professor Program Academic Year 2023/2024

TEACHING COMMITMENT: 14 hours

COURSE TITLE

Mathematics for Business and Finance

TEACHING PERIOD

1st term

SCIENTIFIC AREA

Applied Mathematics for Business and Finance

LANGUAGE USED TO TEACH

English

COURSE SUMMARY

MATHEMATICS

Functions of one variable

Definition, domain, codomain, image, graph of a function. Elementary functions and injective, surjective, inverse, composite functions. Bounded, monotone, convex functions. Maximum and minimum of a function.

Limits and continuity

Notion of limit. Computation of limits and fundamental theorems. Important limits and indeterminate forms. Continuous functions and theorems.

Differential calculus and applications

Notion of derivative and its geometrical meaning, higher-order derivatives, rules of derivation. Derivatives of elementary functions, of inverse functions and composite functions. Theorems of differential calculus. Monotonicity and convexity tests. Optimum problems. Study of functions.

FINANCIAL MATHEMATICS

Notions of linear algebra

Vectors, matrices and operations.

Functions of two variables

Definition and domain. Graph and level curves. Continuity and derivability. Partial derivatives and gradient. Differentiability and tangent plane. Problems of unconstrained optimum.

Economic and business applications.

Fixed costs, variable costs and revenues. Demand function. Income taxes. Production optimization.

Profit maximization. Elasticity.

Financial calculus

Accumulation and discount. Standard systems of financial laws. Annuities and amortization plans.

LEARNING OBJECTIVES

The aim of the course is to present a tool-kit to face economic and financial environments, putting stress on business applications.

TUTORSHIP ACTIVITIES

N/A

LAB ACTIVITIES

N/A

OTHER ACTIVITIES BESIDES THE COURSE

Seminars on the research field of the VP (if in line with the research topics of the PhD students) will be delivered to PhD students.

VISITING PROFESSOR PROFILE

Large experience in teaching Applied Mathematics in English to big groups. Teaching organisation experience required (organising classes for Class Teachers, schedule of classes, managing exams). Good record of publications preferably on Mathematics for Managers.

CONTACT REFERENT

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