

Mathematics

Maths S6 SHN2

IDENTIFICATION

CODE : PC-S4-MA-H2
ECTS : 2.0

HOURS

Lectures : 8.0 h
Seminars : 18.0 h
Laboratory : 0.0 h
Project : 0.0 h
Teacher-student
contact : 26.0 h
Personal work : 25.0 h
Total : 51.0 h

ASSESSMENT METHOD

The evaluation includes 2 written
interrogations of 2 hours

TEACHING AIDS

TEACHING LANGUAGE

French

CONTACT

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AIMS

Following the second semester (S2 SHN0) course, the study of differential calculus will be extended to the second order. Some examples of analytical solving of PDEs will be given. Extreme values for multivariate functions and the local study of implicit surfaces will also be introduced.

This course will enable the student to develop the following skills :

C11 - To split up a problem or a system into its component parts in interaction

C15 - To identify problematics or objectives

C16 - To build a proof

C25 - To use algebraic and numerical computational techniques.

C54 - To interpret data in the context of a model

C55 - To synthesize intermediate results in response to questioning.

C62 - To be able to speak with a satisfying level of langage aiming at a good balance between a usual and symbolic language

CONTENT

Differential Calculus (Differentiability, PDEs, extreme values, implicit function theorem, implicit surfaces)

BIBLIOGRAPHY

- F. Butin, M. Picq, J. Pousin, Mathématiques cours, exercices corrigés 2e année de classes préparatoires

itnégrées, Références sciences, Ellipses, Paris, 2013

- S. Balac, L.Chupin, Analyse et Algèbre : cours de mathématiques de deuxième année avec exercices

corrigés et illustrations Maple, PPUR presses polytechniques, 2008

PRE-REQUISITE

Mathematical course of first and second years