LMAT1121

2010-2011

Mathematical analysis 1

5.0 credits	30.0 h + 30.0 h	1q

Teacher(s) :	Van Schaftingen Jean ; Ponce Augusto ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	This first part covers basic notions in elementary analysis such as the Real Number System, Elementary Sey Theory, Limit, Continuity, Derivative for real functions. It covers both the concepts, its properties and fundamental results such as the Intermediate Value Theorem, Weierstrass Theorem, Rolle's Theorem and the Mean Value Theorem.
Aims :	This course aims at developing the following skills: mastery of the language, rigor in the analysis of a proposition, search for relevant examples, precision in the expression and understanding of the various methods of proofs. More precisely, it deals with the mathematical aspects of the notions of continuity, convergence, derivative and integral. It aims at developing the basic methods of explicit resolution of differential equations and it offers an outlook towards fields of applications. This first course in mathematical analysis presents the basic notions and results with rigor and intuition : convergence, continuity, derivative, integral. The lectures will also contain an introduction to explicit solutions for differential equations and openings to various applications fields. *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 will contain three parts : synthesis of the basic tools from secondary school, one variable calculus, ordinary differential equations
Cycle and year of study :	> Bachelor in Mathematics > Bachelor in Physics
Faculty or entity in charge:	MATH