UCLouvain

lmat1121

2018

Diffenrential and integral calculus

5 credits	30.0 h + 30.0 h	Q1

Teacher(s)	Claeys Tom ;
Language :	French
Place of the course	Louvain-la-Neuve
Aims	*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".*
Evaluation methods	Learning will be assessed by a compulsory test in the course of the semester and by a final examination. The questions will ask students to: - reproduce the subject matter, especially definitions, theorems, methods, and examples - select and apply methods from the course to solve problems and exercises - adapt methods from the course to new situations -summarise and compare topics and concepts. Assessment will focus on - knowledge, understanding and application of the different mathematical methods and topics from the course - precision of calculations - rigour of arguments, reasonings, and justifications - quality of construction of answers.
Teaching methods	Learning activities consist of lectures, exercise sessions and tutorial sessions. The lectures aim to introduce fundamental concepts, to explain them by showing examples and by determining their results, to show their reciprocal connections and their connections with other courses in the programme for the Bachelor in Mathematics. The exercise sessions aim to teach how to select and use methods to solve problems and calculation methods. The tutorial sessions give students individual help and follow-up in their learning. The three activities are given in presential sessions.
Content	• Introduction to functions • Vectors and vector-operations • Functions of several variables: geometric desciption, limits, continuity, differentiability, optimisation of functions of two variables • Multiple integrals: polar and spherical coordinates, change of variables • Differential equations of first and linear of second order • Taylor expansions
Inline resources	**https://moodleucl.uclouvain.be/course/view.php?id=7583**
Bibliography	Livre "Calculus - Early Transcendentals" par W. Briggs, L. Cochran et B. Gillet, éditeur: Pearson, distribué par la Duc.
Faculty or entity in charge	MATH

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Bachelor in Physics	PHYS1BA	5		
Bachelor in Mathematics	MATH1BA	5		