UCLouvain

lmat2420

2018

Complex analysis 2

5 credits	30.0 h + 15.0 h	Q1

Teacher(s)	Claeys Tom ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	Reminders of complex analysis, conformal mappings, Möbius transformations, Riemann mapping theorem, asymptotic methods (Laplace method, steepest descent method), special functions
Aims	Contribution of the course to learning outcomes in the Master in Mathematics programme. By the end of this activity, students will have made progress in: - Recognise and understand a basic foundation of mathematics. In particular: -- Recognise the fundamental concepts of important current mathematical theories. -- Establish the main connections between these theories. - Show evidence of abstract thinking and of a critical spirit. In particular: -- Identify the unifying features of different situations and experiments in mathematics or in closely related fields (probabilty and statistics, physics). -- Argue within the context of the axiomatic method. 1 -- Construct and draw up a proof independently, with clarity and rigour. Learning outcomes specific to the course. By the end of this activity, students will be able to: (a) Understand and apply the major results from complex analysis. (b) Understand the theory of conformal mappings and Möbius transformations. (c) Construct bijective conformal mappings between simple domains. (d) Understand and use several asymptotic methods. The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the program(s) can be accessed at the end of this sheet, in the section entitled 'Programmes/courses offering this Teaching Unit'. - - - - *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	
Bibliography	- J.B. Conway, Functions of one complex variable. - J.E. Marsden and M.J. Hofman, Basic complex analysis, third edition.
Faculty or entity in charge	MATH

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Mathematics	MATH2M	5		
Master [60] in Mathematics	MATH2M1	5		