

Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
MAT328	Partial Differential Equations	6	4	0	0	4	8

Prerequisites	
Admission Requirements	

Language of Instruction	French
Course Type	Compulsory
Course Level	Bachelor Degree
Objective	Introduction to Fourier analysis, to theory of linear PDE.
Content	Fourier series, Separation of variables, Heat equation, Wave equation. Laplace equation, harmonic functions.
References	Equations aux dérivées partielles, Introduction. H.Reinhard, Dunod, 1991. Analyse 2, Calcul différentiel, intégrales multiples, séries de Fourier. F.Cottet-Emard, De Boeck, 2006

Theory Topics

Week	Weekly Contents
1	Fourier series
2	Fourier series
3	Dirichlet's theorem
4	Bessel inequality, Parseval formula.
5	Heat equation
6	Mid term examination.
7	Separation of variables
8	Wave equation
9	Wave equation
10	Initial value problem for the heat equation.
11	Laplace equation
12	Harmonic functions
13	Boundary value problems
14	Green's function