UCL Faculté des sciences

SC

MATH2410 Topologie différentielle

[30h] 3 credits

This course is taught in the 1st semester

Teacher(s):	Pierre Van Moerbeke
Language:	french
Level:	2nd cycle course

Main themes

The main object of this course are complex surfaces of (complex) dimension = 1, in other words the study of Riemann surfaces. The Riemann surfaces constitute a very nice example of analysis and topology interacting with each other in a remarkable way. The Riemann-Roch theorem (on the number of neomorphic functions having prescribed poles) and its numerous consequences constitute powerful illustration. The Abel and Jacobi theorems are of transcendental nature. We will study the straight fibers on the Riemann surfaces and the Jacobian varieties (any dimension of complex algebraic tores). A part of the course will go over the numerous applications to mechanics, ordinary differential equations and non-linear partial derivatives of mathematical physics, to get to the problems of recent research.

Other credits in programs

MATH22/E	Deuxième licence en sciences mathématiques (Economie mathématique)	(3 credits)
MATH22/G	Deuxième licence en sciences mathématiques	(3 credits)
MATH22/S	Deuxième licence en sciences mathématiques (Statistique)	(3 credits)