UCLouvain

lmat2265

2021

Complex geometry

5.00 credits	30.0 h + 15.0 h	Q2

This learning unit is not being organized during this academic year.

Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	- LMAT1222, Analyse complexe 1 (or equivalent) - Basics in differential geometry, LMAT1241 ou LMAT1342 (or equivalent)
Main themes	Compact Riemann surface theory and its applications to integrable systems.
Learning outcomes	
Evaluation methods	Assessment is made on the basis of an oral presentation during the teaching sessions and an oral examination at the end of the class. The oral presentation during the teaching sessions consists in presenting a chapter in a book, or a research article offering new perspectives. The oral examination at the end of the semester tests the knowlege and the hability to use the concepts and the theorems viewed during the class.
Teaching methods	During the classes, students are invited to actively participate, by asking questions based on their previous knowledge of basic complex analysis and basic differential geometry.
Content	In 2019-2020, the course will address the main theorems of compact Riemann surfaces with applications to integrable systems. 1. Compact Riemann surfaces: - Riemann-Roch theorem - Abel's theorem - Jacobi varieties, Jacobi inversion problem and theta functions 2. Applcations to integrable systems (theory of solitons): - Baker-Akhiezer functions - Equations of the theory of solitons
Inline resources	Syllabus and references on the moodle website of LMAT2265.
Faculty or entity in charge	MATH

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Mathematics	MATH2M	5		🔍
Master [120] in Physics	PHYS2M	5		🔍
Master [60] in Mathematics	MATH2M1	5		🔍
Master [60] in Physics	PHYS2M1	5		🔍