Universidad de los Andes
Facultad de Ciencias

DEPARTAMENTO DE MATEMÁTICAS

OFRECIMIENTOS DE CURSOS

2013 - 1

Código Curso MATE- MATE-4103	**Nombre del curso**: Algebraic Number Theory	**Créditos/horas**
	Profesor: Zeljka Ljujic	
Prerrequisitos: Abstract Algebra II		
Objetivos: This course is design as an introduction to the classical algebraic number theory and it can be seen as a natural continuation of Abstract Algebra II. Its goal is to familiarize students with the unique factorization of ideals in algebraic number fields, which will lead us to the definition of the ideal class group. Furthermore, we will introduce Minkowski's geometry of numbers in order to prove Dirichlet's unit theorem. As an example, we will take a closer look at the structure of the quadratic and cyclotomic fields. At the end of the course, some application of algebraic number theory to solving Diophantine equations will be discussed.		
Contenido: Linear algebra in number fields: norm, trace and discriminant; Rings of integers; Unique factorization of ideals; Norms of ideals; Ramification and degree; The ideal class group; The Kummer-Dedekind theorem; Quadratic and cyclotomic number fields; Geometry of numbers: Dirichlet´s unit theorem; Units in quadratic fields.		
Forma de Evaluación: Homework and exams		
Bibliografía: A classical introduction to modern number theory, Kenneth Ireland, Michael Rosen, Springer Problems in algebraic number theory, M. Ram Murty, Jody Esmonde, Springer		

Ofrecimiento de Cursos

Luisa Fernanda Vargas

Asistente Académica