De Rham Cohomology

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Timetable: 12 hrs. First lecture on February 21st, 2017, 13:30 (dates already fixed, see the calendar), Torre Archimede, Room 2BC/30.

Course requirements: Basis Commutive algebra. Basic Algebraic Topology. Basic Algebraic geometry and differential geometry.

Examination and grading: the exam will be oral and tailored on the basis of the student's attitude.

SSD: Mat02/03/05/07

Aim:

De Rham cohomology is at the basis of the duality between cycles and differentials. We will show the ubiquity of the de Rham cohomology in the arithmetic algebraic geometry setting. We wil show how to compute the de Rham complex ina complete algebraic way if we start with an algebraic geometry over the complex numbers. For this we will need to introduce some GAGA comparison theorems and some techniques of homological algebra.

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