



## DOCTORAL PROGRAMME IN MATHEMATICAL SCIENCES

Per il Dottorato in Scienze Matematiche dell'Università degli Studi di Milano

il Dr. **Jeff Yealton**

terrà un corso di dottorato su

### **Advanced topics in the arithmetic of elliptic curves**

presso il Dipartimento di Matematica dell'Università degli Studi di Milano  
Via C. Saldini n.50 - Milano

#### **Abstract**

This is first course on elliptic curves. I will follow Silverman's first book, through basic definitions and properties, elliptic curves over  $\mathbb{C}$ , over finite fields, over local fields, and over global fields, and finally (if time permits) an introduction to the theory of complex multiplication. The most basic concepts in algebraic geometry (varieties, morphisms, etc.) would be included in the course, so there would be no algebraic geometry prerequisite. Depending on the students I could put a lot of weight on the complex analytic point of view in the theory of elliptic curves maybe developing the more general theory of complex abelian varieties. A possibility is to discuss classical Abel-Jacobi and spend a lecture explicitly constructing the Jacobian of a hyperelliptic curve. I would want to assume a basic knowledge of complex analysis, of course.

#### **Calendario**

mercoledì 2, 9, 16, 23, 30 novembre 2016

mercoledì 11, 18, 25 gennaio 2017

mercoledì 1, 8, 15, 22 febbraio 2017

presso l'aula Dottorato (I piano) del Dipartimento di Matematica, Via C. Saldini n.50 – Milano