

Algebraic Geometry and Commutative Algebra Part 2.  
Syllabus.

Syllabus of the first part of the course

Algebraic curves and their non-singular models

Riemann-Roch theorem - elementary approach

Sheaves

Coherent sheaves and localization. Serre's lemma

Cohomologies and elements of homological algebra.

Higher cohomological operations with sheaves. Base change

Different versions of Riemann-Roch theorem and its applications.

Jacobians of curves

Weil's proof of Riemann hypothesis for curves over finite fields.