

MATH 595 Higher Algebraic K -theory: classical results
Fall 2017 CRN: 58570

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Course description Algebraic K -theory was introduced in the 50's by Grothendieck for his Riemann-Roch theorem. Since then it has played an important role in many areas of mathematics: algebra, geometry, number theory, and topology. The goal of this class is to provide an introduction to Quillen's higher algebraic K -theory. A (tentative) list of topics we'll cover includes:

1. Classical results on K_0 , K_1 of rings.
2. Quillen's construction of higher algebraic K -theory and fundamental theorems.
3. Quillen's computation of K -theory of finite fields.
4. Suslin's computation of K -theory of algebraically closed fields; Suslin-Gabber rigidity.

Prerequisites: Some knowledge of basic algebra and basic homotopy theory.

Recommended text: "The K -book" by Chuck Weibel. (Available on his homepage.)