NAP 2018 Module III Lecture 2 Tuesday, June 5, 2018, 16:30 – 18:00.

Finite extensions: definition, example of finite extensions, examples of extensions which are not finite.

Separable extensions: definition, example of separable extensions, examples of extensions which are not separable. Case of characteristic zero. Case of finite fields.

Normal extensions: definition, example of norma extensions; quadratic extensions. Examples of extensions which are not normal.

Galois extensions; equivalent definitions.

Construction of a field with $p^r$ elements ($p$ prime $r \geq 1$). Unicity with a unique isomorphism for $r = 1$. Automorphisms of a finite field: cyclic group of order $r$ generated by the Frobenius.