

Title of the course. CRN: 35789

COMBINATORIAL AND ASYMPTOTIC METHODS IN THE THEORY OF  
DYNAMICAL SYSTEMS  
AND THE REPRESENTATION THEORY.

Short plan:

Chapter 1. Combinatorial measure theory, and combinatorics in dynamics.

Chapter 2. Symmetric group, its representation probabilistic approach and AF-algebras.

Chapter 3. Asymptotic statistics of the combinatorial objects (partitions, Young diagrams etc.).

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Literature

Chapter 1.

Unfortunately it is very difficult to give appropriate literature to the first chapter besides the journal articles.

key words: approximation of dynamical systems, adic transformations, substitutions, Morse sequence, filtrations, classification, entropy.

Chapter 2.

G. James. The representation theory of the symmetric groups. 1978. Springer-Verlag  
W. Fulton. Young tableaux: with applications to representation theory and geometry. LMS 1997.

key words: Coxeter groups, Gelfand-Zetlin algebras, AF-algebras, Bratteli diagrams, Young diagrams. characters, infinite symmetric group, K-functor.

Chapter 3.

G. Andrews. The Theory of Partitions. Cambridge Univ. Press 1998

R.Stanley. Enumerative combinatorics. Cambridge Univ.Press  
2001.

key words genrating functions, limit shape, satistical mechanics  
of partitions.

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