Instructor: Dr. Nandor Simanyi

Class meets: Monday & Wednesday, 12:00–13:15 in CH-402

Office hours: Monday, 5:00–7:00, or by appointment

We will have two 75-minute-long meetings per week. In the majority of class meetings I will be covering new material, the rest will be devoted to discussing the homework (some hints for the outstanding exercises that are due later, plus thorough discussion of the already submitted homework), and these special class meetings also serve as Q&A sessions.

Office: CH 490B, phone: 934-2154, E-mail: simanyi@uab.edu

**Text.** Detailed printed class notes will be handed out regularly

Homework will be assigned on a weekly or bi-weekly basis.

**Prerequisite.** Admission to the graduate program, or by my permission

**Assessment Procedures.** Student achievement will be assessed by the following measures: Regularly assigned homework problems, two midterm tests, and a comprehensive final exam. A numerical score is given on each of them.

**Grading Policy.** The percentage of the final numerical grade assigned to each item is as follows: final exam: 30%; two midterm tests: 15% each; homework 40%.

At the end I will “reasonably” curve the overall numerical scores.

**Draft Syllabus**

1. Measure-preserving transformations, recurrence, ergodicity, mixing, the Ergodic Theorem.

2. Spectral properties, isomorphism, conjugacy of dynamical systems.


4. Partitions, information, the Shannon entropy. The Kolmogorov-Sinai (metric) entropy of a transformation.
5. Topological dynamics: minimality, the non-wandering set, topological transitivity, topological conjugacy and discrete spectrum.


8. Relationship between the topological and metric entropy. The Variational Principle.