

Math 8803, Selected topics in dynamical systems and ergodic theory

20th August 2026

General informations

1. Academic year: 2026/2027 (fall)
2. Credits: 3
3. Instructor: Adam Kanigowski, email: akanigowski3@gatech.edu
4. **Description:** The course will discuss some basic and more advance notions in both measurable and topological dynamics. Some classical notion as entropy, decay of correlation, statistical behavior, Lyapunov exponents will be introduced in the first part. Later we will focus on more specific classes of smooth dynamical systems (hyperbolic, parabolic and elliptic) and we will discuss main phenomena and techniques to study their ergodic and statistical behavior.
5. **Objectives:**
 - a. Basic notions in measurable and topological dynamics
 - b. Ergodic and statistical properties of smooth systems
 - c. Connections to other fields (number theory, geometry).
6. Grading policy: attendance is strongly encouraged but not mandatory. The basis for the grade will be presentations given by participants towards the end of the class.
7. Academic Integrity:

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review **Georgia Tech's Honor Code** and the student **Code of Conduct**. Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

8. Core IMPACTS:

Core IMPACTS is the University System of Georgia's General Education curriculum. If you are teaching a course that counts towards Core IMPACTS, you should include a syllabus statement about the Core area and associated career competencies. This resource developed by the Center for Excellence in Teaching and Learning and Online Education at Georgia State University includes template syllabus statements for each of the Core IMPACTS areas that you may adapt for your course.

9. Accommodations for Students with Disabilities :

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

10. Student-Faculty Expectations Agreement:

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.