Math 564: Dynamical Systems. Spring 2014

Instructor: Dr. Saša Kocić

Office: Hume Hall 312

Office hours: TTh 2:00-3:00 pm, or by appointment

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Course Information

Textbook:	B. Hasselblatt and A. Katok: A first course in Dynamics with a panorama of recent developments, 1st Edition, Cambridge University Press (2003).
Time/Place:	TTh 9:30-10:45 PM, Hume Hall 321

Course description

This course is an introduction to the theory of dynamical systems. Dynamical systems is a major mathematical discipline closely intertwined with all main areas of mathematics. The course will be cover some basic examples of dynamical systems, linear maps and differential equations, circle maps, an introduction to conservative, hyperbolic dynamics and chaos, and some connections with ergodic theory and number theory.

Course learning objectives

The objective of the course is to give students a necessary background for further study in dynamical systems or related areas.

Homework

Homework will be assigned regularly. In addition, students will be expected to familiarize themselves with a computational tool (e.g., Mathematica, Maple or Matlab) and be able to apply them for numerical investigation of some dynamical systems.

Course expectations

Since this is a 500 level course, there are different expectations for undergraduate and graduate students enrolled in the course. In addition to completing the homework assigned to the undergraduates, graduate students may be expected to complete a set of supplemental homework problems that will focus on more theoretical aspects of dynamics. The examinations for the undergraduate and graduate students might be different.

Tests and final exam

There will be three mid-term exams, worth 50% of the course grade and a final exam worth 25%. The remainder of the grade will be based upon homework scores and participation.

Test 1: Thursday, February 20.

Test 2: Thursday, March 27.

Test 3: Thursday, April 24.

Final: Thursday, May 8th, 2014 at 8 am.

Grading

Your grade will be based on your percentage score (S) and determined according to the following scale:

A	$90 \leq S \leq 100$	A-	$87 \leq S < 90$	B+	$85 \leq S < 87$	B	$80 \leq S < 85$
B-	$77 \leq S < 80$	C+	$75 \leq S < 77$	C	$70 \leq S < 75$	D	$60 \leq S < 70$
F	$S < 60$						

- An "I" grade will not be given without the permission of the Department of Mathematics.

Attendance policy

Attendance is mandatory.

Academic honesty

The following statement is the policy of Department of Mathematics regarding academic honesty: cheating on any exam, quiz, classwork, or homework, theft of exam questions or possession of exam questions prior to the time for the exam shall all be offenses subject to the appropriate penalties. The penalty for commission of any offense set out above is failure in the course, and subject to the approval of the Chancellor, dismissal or suspension from the university.

Withdrawal deadline

Withdrawal deadline for the 2014 Spring semester is Tuesday, March 4. After the Course withdrawal deadline, courses dropped will be recorded on University records and the W grade will be recorded if the student is not failing the course at the time of withdrawal; otherwise the grade recorded will be F. After the course withdrawal deadline, a student may drop a course only in cases of extreme and unavoidable emergency as determined by the academic dean; dropping a course after the deadline will not be permitted because of dissatisfaction over an expected grade or because the student is changing his/her major.

Academic needs

It is the responsibility of any student with a disability who requests a reasonable accommodation to contact the Office of Student Disability Services (915-7128). Contact will then be made by that office through the student to the instructor of this class. The instructor will then work with the student so that a reasonable accommodation of any disability can be made.