Course Information Sheet:
Math A4500, Section PR, Spring 2017

Course Title: Dynamical Systems

Pre-requisite: C or better in Math 32404.

Catalog Description: Dynamical systems arise naturally from connections to the sciences and many mathematical subjects both pure and applied. Students will be able to apply techniques learned in this course to these interrelated subjects. This course provides an introduction to important classes of dynamical systems and exposure to the most important phenomena which appear in the subject.

Meeting time and place: MoWe 2-3:40pm in Room 106 of Baskerville Hall

Instructor Information:

- **Name:** Prof. Patrick Hooper
- **Office hours:** Tentatively scheduled for Mondays 4-5:50pm on any day our class meets. Check the course webpage for up to date information. Appointments are also accepted.
- **Office:** NAC 6/282
- **Email:** whooper@ccny.cuny.edu
- **Office phone:** (212) 650-5149

Course Textbook: *An Introduction To Chaotic Dynamical Systems* by Robert L. Devaney, 2nd edition.

Topics covered: We will complete most of the first two chapters of the course textbook. Exactly what we will cover will depend on time constraints. For reference, the table of contents of the course textbook has been reproduced at the end of this document.

Grades: Grades will be computed from the following:

- Homework and Classwork (15%),
- Three Midterms (20% each),
- Final presentation (25%).

Your final score will be tabulated out of 100% as indicated by the percentages above, with attendance taken into account. (See the attendance section below.) A letter grade will be assigned to you according to the table below.

A+	97-100	B+	87-89	C+	77-79	F	below 70
A	95-96	B	84-86	C	70-76		
A-	90-94	B-	80-83				

Course website: Course information, homework assignments, and documents can be found on the website:

`http://wphooper.com/teaching/2019-spring-dynamics/`

Blackboard: I use blackboard to keep track of your grades, and you can view your grades there. To access blackboard visit `http://bbhosted.cuny.edu/`.

General expectations: For each hour spent in the classroom, I expect you to spend at least three hours reading and understanding the book, understanding lecture notes, and doing homework. Practice (doing problems and proofs) is an important part of understanding mathematics. Only adequate practice will guarantee that you can complete midterm and exam problems in a timely manner.

Expectations of written work: Mathematical computations and proofs will be graded partially on presentation. In order to receive full credit, a student who reads your answer should be able to easily understand how you solved the problem. Written work is expected to be legible and arguments are expected to be well articulated.

Midterms: You will be given the full class to complete each midterm. If a midterm is missed under well documented and sufficiently compelling circumstances, then a makeup can be taken. Notify me ahead of a midterm you expect to miss to be sure your circumstances are sufficiently compelling. The makeup must be taken within one week of the originally scheduled midterm. A grade of zero will be assigned to anyone who does not take a midterm or a makeup.

The midterms are scheduled for February 27, April 1, and May 13.

Final Presentations: In this course, we will work through many examples of dynamical systems, with the primary goal being to introduce the tools used to understand these systems. I hope that the final projects will increase the classes perspective of the breadth of the subject of dynamical systems and connections to other areas of mathematics, and give individuals an opportunity to connect the subject with their interests.

You are expected to give a presentation on a topic in Dynamical Systems which we have not covered in the course. Presentations will be given at the time our Final exam is scheduled (1-3:15pm on Wednesday, May 22nd) and should be 10-15 minutes long. Each individual will be responsible for their own presentation. More details will be provided midway through the semester.

Homework assignments: Homework will be assigned approximately once a week and will have a due date. Homework assignments will be made available on the course website at least one week before the assignment is due. I encourage you to work in groups on the homework problems, especially if this best suits your learning style. Nonetheless, you should be confident that you understand how to do each problem, and should be able to solve similar problems independently. Failure to ensure that you can solve problems independently will surely have a negative effect on exam grades.

Late homework: Late homework will not be accepted for any reason. If you need to miss class, please scan it and email your assignment to me as a PDF document before the start of class on the day it is due.

Dropped homework grades: The four lowest homework grades will be dropped.

Departmental website: The departmental website is `http://math.sci.ccny.cuny.edu/`. Almost anything else you could want to know about the department can be found here.

Academic integrity: You are expected to adhere to the CUNY Policy on Academic Integrity. This policy is posted at `http://www.ccny.cuny.edu/about/integrity`

Accommodations for Students with Disabilities: Qualified students with disabilities will be provided reasonable academic accommodations if determined eligible by the AccessAbility Center (AAC). Prior to granting disability accommodations in this course, the instructor must receive written verification of a students eligibility from the AAC, which is located in NAC 1/218. It is the students responsibility to initiate contact with the AAC and to follow the established procedures for having the accommodation notice sent to the instructor.

An Introduction to Chaotic Dynamical Systems, by Robert Devaney, 2nd edition.

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