Math 307 Dynamical Systems and Chaos Spring 2004

Course Information

Instructor: Warren Weckesser Office: 314 McGregory

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Office Hours: Monday, Wednesday, Thursday 1:20-3:00 PM

Other times by appointment, or just drop by to see if I'm available.

Text: Chaos: An Introduction to Dynamical Systems, by Alligood, Sauer, and Yorke (Springer)

Web Page: http://math.colgate.edu/~wweckesser/math307/

Prerequisite:

The most recent catalog does not say so, but Math 214 (Linear Algebra) is a prerequisite for this course.

Topics Covered:

We will cover Chapters 1-11 of the text. We may skip some material, and we may cover selected topics from Chapter 12 or other sources if there is time.

Problem Sets:

There will be roughly ten Problem Sets assigned. These will include problems from the text along with supplemental problems.

These assignments are the core of the course. Your solutions to the problems should be carefully prepared documents expressing complete ideas, written with complete sentences. They will be challenging, and will require significant effort. Some of the problems will require you to go beyond what has been covered in class or in the text, and apply the techniques that you have learned to new problems. You should expect to get stuck now and then, and you may need some help from me or from your classmates.

Collaboration on the problem sets is allowed, and even encouraged. However, *collaboration* means helping each other to understand the problem and how to solve it; it does not mean simply copying someone else's answer. You must write your own solutions in your own words.

Class Participation:

Each chapter of the book contains exercises distributed throughout the text. (For example, the first exercise is Exercise T1.1 on page 10.) It is important that you do these carefully. As part of your grade, each person will present solutions to an exercise in class at least twice.

Exams:

There will be two cumulative midterm exams. The dates of the exams will depend on how fast we progress; the first exam will cover Chapters 1-6.

There will also be a cumulative final exam. Consult the final exam schedule before making travel plans for the end of the semester, as the date and time of the final exam can not be altered.

Grading:

Your grade will be based on the following:

Item	Percent
Class Participation	5
Problem Sets	25
Midterm Exam 1	20
Midterm Exam 2	20
Final Exam	30

Your grade for the course will be determined by computing your numerical total and then converting that number to a letter grade. The assignment of letter grades will depend on performance of the the individual and on my overall impression of the class. However, the cutoffs for letter grades will be no higher than these:

100 - 96.7% A+	$86.7 - 89.9\% \mathrm{B} +$	76.7 - 79.9% C+	66.7 - 69.9% D+	0 - $59.9%$	\mathbf{F}
93.3 - $96.6%$ A	83.3 - $86.6%$ B	73.3 - $76.6%$ C	63.3 - $66.6%$ D		
90 - 93.2% A-	80 - 83.2% B-	70 - 73.2% C-	60 - 63.2% D-		