Queen Mary
University of London

MAS424/MTHM021 Introduction to Dynamical Systems

Course Information **Fall 2007**

Lecturer: Dr. Rainer Klages **Office:** B12 **Email:** r.klages@qmul.ac.uk

Office Hours: Monday 13.30-14.30, Thursday 16.30-17.30

Lectures:	Thursday	10.00-11.00	Math G2
	Thursday	11.00-12.00	Math G2

Optional Exercise Class: Thursday 12.00-13.00 Math G2

Further course Information: please check out the course webpage on

`www.maths.qmul.ac.uk/~klages/MAS424`

Lecture notes: There is a *preliminary* set of lecture notes available on the course webpage. However, these notes may be modified during the current course. If so, you will find the amended notes on the web as well.

Literature: Your course notes should be sufficient. However, for further details you may wish to look into the following books:

1. Robert L. Devaney, *An Introduction to Chaotic Dynamical Systems* (Westview Press, 2003) (nice outline of basic mathematics concerning low-dimensional discrete dynamical systems)
2. Kathleen T. Alligood, Tim D. Sauer, James A. Yorke, *Chaos* (Springer, 1996) (easy introduction from a more mathematical point of view)
3. B. Hasselblatt, A. Katok, *A First Course in Dynamics* (Cambridge Univ Press, 2003) (bridges the gap towards Katok/Hasselblatt's 'bible' on dynamical systems theory)
4. C. Robinson, *Dynamical Systems* (CRC Press, London, 1995) (a more advanced mathematical introduction towards discrete dynamics)
5. Edward Ott, *Chaos in Dynamical Systems* (Cambridge Univ Press, 1993), (easy introduction from a more applied point of view)
6. Christian Beck, Friedrich Schlögl, *Thermodynamics of Chaotic Systems: An Introduction* (Cambridge University Press, 1995) (a very useful supplement)

1-3 and 6 are available in the library's short loan collection. Further literature you can find on the course webpage.

Exercises: There will be four problem sheets during this course, which you can also find on the course webpage. This coursework does not count to your final mark, and I won't mark your solutions. Two to three weeks after I handed out the problem sheets I will put model solutions on this webpage. In case of any questions or difficulties I will be happy to discuss your coursework with you during the optional exercise classes.
It is highly recommended that you do all the coursework problems! You won't have a chance to pass your final exam with a reasonable grade without doing all the suggested exercises.

Dates for Coursework:	number	hand out	model solutions on web
	1	11/10	25/10
	2	25/10	15/11
	3	15/11	29/11
	4	29/11	13/12

Assessment and Examination:
Total credit for this course will be based on the following components:
(1) Final written exam in May or June (100%)