Syllabus

for course at advanced level

Chaotic Dynamic Systems
Kaotiska dynamiska system

7.5 Higher Education Credits
7.5 ECTS credits

Course code:	MM8014
Valid from:	Autumn 2007
Date of approval:	2006-09-27
Department	Department of Mathematics (incl. Math. Statistics)
Subject	Mathematics
Specialisation:	AXX - Second cycle, in-depth level of the course cannot be classified

Decision

This syllabus has been approved by the Board of the Faculty of Science at Stockholm University on 27 September 2006.

Prerequisites and special admittance requirements

To qualify for the course knowledge equivalent to 90 credits in mathematics is required, where The foundations of analysis, 7.5 credits and Analytic functions I, 7.5 credits are included. Also required is knowledge equivalent to Swedish upper secondary course English B or equivalent to one of the following tests. Cambridge CPE and CAE: Pass, IELTS: 6.0 (with no part of the test below 5.0), TOEFL (paper based): 550 (with minimum grade 4 on the written test part), TOEFL (computer based): 213, TOEFL (internet based): 79.

Course structure

Examination code	Name	Higher Education Credits
F814	Chaotic dynamic systems	7.5

Course content

The course treats dynamic systems in one and several dimensions, complex dynamic systems, mainly iterations, dependance on parameters and chaotic behaviour (unstable dependance on initial values).

Learning outcomes

It is expected that the student after taking the course will be able to:
• account for and prove basic results on chaotic dynamic systems
• use methods in the theory of dynamic systems to solve theoretical and applied problems.

Education

The education consists of lectures and exercises.

Forms of examination

a. Examination for the course is in the following manner: measurement of knowledge takes place through written or oral examination.

b. Grading is carried out according to a 7-point scale related to learning objectives:
A = Excellent

B = Very Good
C = Good
D = Satisfactory
E = Sufficient
Fx = Fail
F = Fail

c. Grading criteria for the course will be distributed at the start of the course.

d. A minimum grade of E is required to pass the course.

e. Students who fail to achieve a pass grade in an ordinary examination have the right to take at least further four examinations, as long as the course is given. The term "examination" here is used to denote also other compulsory elements of the course. Students who have achieved a pass grade on an examination may not retake this examination in order to attempt to achieve a higher grade. Students who have failed to reach a pass grade on two occasions have the right to request that a different teacher be appointed to set the grade of the course. A request for such appointment must be sent to the departmental board

Interim
Students may request that the examination is carried out in accordance with this syllabus even after it has ceased to apply. This right is limited, however, to a maximum of three occasions during a two-year-period after the end of giving the course. A request for such examination must be sent to the departmental board.

Limitations
The course may not be included in a degree together with the course "Chaotic dynamic systems" (MA4360), or the equivalent.

Misc
The course is a component of the Master programs in mathematics and in applied mathematics, and it can also be taken as an individual course.

Required reading
Course literature is decided by the departmental board and is described in an appendix to the syllabus.