

CHAOTIC DYNAMICS: COURSE SYLLABUS

Course Number: PHYS 715

Class: Tues., Thurs.; 2:00 to 3:15; PHY 1219

Instructor Edward Ott
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Office Hours: Tues. 4:00-5:00 and, at other times, by appointment.

Course Content: Theory and application of chaos in dynamical systems. Topics covered include: sensitive dependence on initial conditions, strange attractors, Lyapunov exponents, bifurcations of chaotic systems, quasiperiodicity, synchronization and control of chaotic systems. Applications in physics and engineering.

Textbook: 'Chaos in Dynamical Systems' by E. Ott (Cambridge University Press, 2nd edition, 2002)

Homework/Exam:

- (1) There will be approximately six homework sets due about once every two weeks.
- (2) An in-class exam is tentatively scheduled for Tuesday, Nov. 21.
- (3) A term paper on topic agreed upon by the instructor and each student will be due on December 15.