

MATH 474 (MAST 661J/MATH 601H)
Linear & Non-Linear Dynamical Systems
Fall 2014

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Office Hours: TBA or by appointment.

Text: Dynamical Systems, Differential Equations, Maps and Chaotic Behaviour
by D.K. Arrowsmith and C.M. Place, Chapman and Hall/CRC, 1998.

Another text: Differential Equations, Dynamical Systems & Introduction to Chaos by
M.W. Hirsch, St. Smale and R.L. Devaney.

(Most books on Differential Equations will have chapters on Linear and
Non-Linear Systems and Qualitative Theory).

Outline: Weeks 1-3 Linear Systems and Linear Algebra.
Weeks 4-8 Qualitative Theory of Linear and Non-Linear Systems.
Weeks 9-12 Applications to Physical and/or Biological Systems.

Assignments: Assignments will be given weekly on the web page and solutions are
expected to be handed in the following week. No late assignments will
be accepted.

Grading: 1) 10% Homework + 30% Midterm + 60% Final or
2) 100% Final Exam