

***Information Sheet***  
**MATH 670 / AMSC 670 , Fall 2007**  
**Ordinary Differential Equations**

**Instructor:** Radu Balan, Math 2308, phone x55492, e-mail: [rvbalan@math.umd.edu](mailto:rvbalan@math.umd.edu)

**Lectures:** Tu, Th, 9.30am – 10.45am, Math 1311

**Office hours:** Tu, Thu. 11:00am-12:00, Math 2308, or by appointment.

**Teaching Assistant:** J.T. Halbert, CSS 4364E, e-mail: [halbert@math.umd.edu](mailto:halbert@math.umd.edu)

**Text book:** Nelson G. Markley, *Principles of Differential Equations*, 2004.

**Additional References:**

V. Arnold, *Ordinary Differential Equations*, MIT Press 1992.

P. Hartman, *Ordinary Differential Equations*, Birkhauser 1982.

V. Arnold, *Mathematical Methods of Classical Mechanics*, Springer-Verlag 1978.

MATH 670 is an introduction to some important aspects of modern dynamical systems theory, and qualitative theory of differential equations.

The main topics are: existence and uniqueness theorems, asymptotic behavior of solutions and stability, linear systems with constant coefficients, Floquet theory of periodic linear systems, Lyapunov theory of stability, planar systems with Poincare-Bendixon theorem, linearization, and invariant manifolds.

**Grades.** There will be one mid-term exam (100 points), homework assignments (for a total of 100 points), and a final exam (200 points). Students are allowed one single-sided “cheat sheet” during the mid-term, and one double-sided “cheat sheet” during the final.

**Exam dates:** Mid-term on Tuesday, October 23, 9.30-10.45am. Final exam: Tuesday, December 18, 9.30-11.30am.

**Homework.** Homework must be submitted on the date assigned. Homework must be prepared without consulting any other person. You may however consult any written reference. In this case you should cite the reference. Results taken from the reference should be (re)stated to the notation used in the course. Explanations should be given in complete English sentences. Written work must be legible and clear.

**Academic Integrity.** You are expected to adhere to the University’s Code of Academic Integrity, available on the University’s web site, at:

<https://www.jpo.umd.edu/aca/honorpledge.html>

**Students with Disabilities:** If you have a documented disability and wish to discuss academic accommodations with me, please contact me as soon as possible.

**Religious Observances.** If you will be absent from class because of religious observances, please submit a list of the dates of your absences within a couple of days.