Math 5410 - 1   Introduction to Ordinary Differential Equations   Nov. 4, 2014
Math 6840 - 1   M, T, W, F, 2:00 - 2:50 PM in LS 101.

Homepage: http://www.math.utah.edu/~treiberg/M5410.html

Instructor: A. Treibergs, JWB 224, 581 - 8350.
                 Office Hours: M, T, F 12:45 - 1:45 PM (tent.) & by appt.
                 E-mail: treiberg@math.utah.edu

Prerequisites: "C" or better in (MATH 2250 OR MATH 2280). Experience with
                 higher level courses and computation is recommended.

Texts: Morris Hirsch, Stephen Smale & Robert Devaney, Differential Equations,
                 Dynamical Systems, and an Introduction to Chaos 3rd. ed., Academic Press,
                 Waltham, 2013. ISBN 978-0-12-382010-5

Grading
    Homework: To be assigned weekly. Homework will be due Fridays and will be collected
                 in class. Papers turned into my mailbox in the math mail room (JWB 228) by
                 4:00 PM Fridays before I leave will be regarded as being turned in on
                 time. Homework that is late will receive half credit.

Term Project: Students will write a short mathematical paper on an approved topic of
                 their choice. This paper will allow students to explore in some detail a
                 mathematical theory or a model from science or engineering beyond what's
                 covered by lectures. Students will meet individually with the instructor
                 to discuss an outline of their proposed project. Project outlines must be
                 approved by Oct. 24. Completed projects are due the last day, Dec. 12.

       Exams: Exams will be closed book except that you will be allowed
                 to bring a "cheat sheet," an 8.5" x 11" piece of paper with
                 notes on both sides. Your text, notes, homework papers,
                 calculators laptops, tablets, phones, text messaging devices,
                 and other books will not be allowed.

    Midterms: There will be two in-class one-hour midterm exams on Wednesdays
                 Sept. 24 and Nov. 5.

    Final Exam: Wed., Dec. 17, 1:00 - 3:00 PM. Half of the final will be devoted to
                 material covered after the second midterm exam. The other half will be
                 comprehensive. Students must take the final to pass the course.

Course grade: Two midterms 40% + Project 10% + HW 20% + final 30%.

Withdrawals: Last day to register is Sept. 8. Last day to drop class is Sept. 19. Until
                 Oct. 24 you can withdraw from class with no approval at all. After that
                 date you must petition your dean's office to be allowed to withdraw.

ADA: The Americans with Disability Act requires that reasonable accommodations
                 be provided for students with cognitive, systemic, learning and
                 psychiatric disabilities. Please contact me at the beginning of the
                 quarter to discuss any such accommodations you may require for thiscourse.

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Objectives: Cover the theory of linear and nonlinear ordinary differential
                 equations and dynamical systems, introduce initial-value problems
                 and behavior of solutions, discusses existence-uniqueness-
                 perturbations-continuous dependence of solution on initial
                 conditions, and introduce nonlinear dynamical systems with
                 applications.

Tentative Course Schedule:
  Part I: Linear systems: Chapters 2 - 6
  Part II: Fundamentals: Chapters 7, 8, 17
  Part III: Nonlinear equations and dynamical systems: Chapters 9 -15