California State University, Northridge

MATH 351: Ordinary Differential Equations, Spring 2010

Class Number: 15924; Schedule: TTh 4:00pm–5:15pm in CR5114.

Instructor: Dr. Vladislav Panferov, office SN 129, phone (818)677-2326
Email: `vladislav.panferov@csun.edu`
Course webpage: `www.csun.edu/~panferov/math351/`
Office hours: (tentative: check webpage for updates) Mon 12-2pm, Thu 12-1pm, or by appointment (email).

Course description: Differential equations, their use in modeling in science and engineering disciplines. Methods of analytical solution of simplest types of differential equations. Linear equations and the principle of superposition. Use of Laplace transforms for solving differential equations. Qualitative study of solutions of linear and nonlinear systems. Basic elements of the theory; existence, uniqueness and stability theorems.

Text: J. D. Logan, A first course in differential equations, Springer, 2005.

Recommended references: Boyce, DiPrima, Elementary Differential Equations and Boundary Value Problems, Wiley, 2008 or earlier editions.

Prerequisites: Calculus, MATH 250, Linear algebra, MATH 262.

Grading: 10% homework assignments, 40% two midterm tests, 15% quizzes (given in class), 35% final exam (cumulative). The percentages are generally translated into letter grades using the following scale: 90-100% A; 80-89% B, 70-79% C, 60-69% D, 0-59% F. The cutoff numbers may be adjusted based on the class average performance, however any such change may only result in increasing the individual grades.

Homework: Homework is the course's most essential component. You are expected to solve a large number of problems each week, the list of which will be announced on the course webpage. Some of these problems will be collected for credit, other may be included in quizzes. Only selected problems from each assignment will be graded. It is always the solution of the problem that matters, not just the correct answer: this will also be reflected in the grading. You may work in teams on the assignments, however each of you must submit your own complete copy for grading. Homework will always be due *at the beginning of the class*; late homework will not be accepted for credit. Homework must be written neatly or typewritten, and stapled. Sloppily done assignments will be returned ungraded.

Tests/exams: There will be two in-class midterm exams, tentatively scheduled for March 2 and April 13 (Tuesdays). This schedule may be adjusted, and the changes will be announced in class and on the course webpage. All exams will be closed books/notes.

Make-ups: There will be no make-up exams, unless you have to miss the exam for a valid and well-documented reason, due to circumstances beyond your control. In such case you should let me know about it *before the exam* (by email).

Final exam: On Thursday May 13, 2010, 05:30pm - 07:30pm in CR 5114.

Calculators: A graphing calculator or a computer software such as Maple or Matlab may be useful for solution of some of the homework problems. However, graphing calculators will <u>not</u> be allowed on midterm or final exams. A basic scientific calculator is OK (example, TI-30XII, or similar).