MATH 480: Partial Differential Equations

Fall 2012   Class number 15988   TTh 9:30am–10:45pm   Room LO 1127

Prof. Vladislav Panferov

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Office hours: (tentative: check webpage for updates) MTWTh 11-12noon, or by appointment.

Course description: Orthogonal functions, Laplace's equation, Poisson's equation, Bessel's equation, self-adjoint operators, Sturm-Liouville theory, Fourier series, separation of variables applied to the heat equation and wave equation, nonhomogeneous problems, Green's functions for time-independent problems, and infinite domain problems.

MATH 480 WEBPAGE   www.csun.edu/∼panferov/math480/

Texts:

Partial differential equations and boundary-value problems with applications, by Mark A. Pinsky, 3rd edition, AMS 2011. Also (same edition) Waveland Press, 2003 and McGraw-Hill, 1998. Earlier edition is acceptable: *Introduction to partial differential equations with applications*, by Mark A. Pinsky, McGraw-Hill, 1984.

Other relevant textbooks: *Applied Partial Differential Equations*, by Richard Haberman, 4th edition, 2003, or earlier editions; *Partial differential equations: An introduction*, by Walter Strauss, 2nd edition, 2007 or earlier edition.

Prerequisites: CSUN MATH 250, MATH 351/280 or equivalent courses.

Homework/Quizzes: Homework will be assigned every week and announced on the course webpage. Homework assignments will not be collected or graded, however selected problems from the homework will be included in quizzes (15 minutes, held in the beginning of class and announced in advance). Answers/solutions to selected problems will be made available on the webpage after quiz date.

Tests/exams: There will be two in-class midterm tests, tentatively scheduled for October 11 and November 15 (Thursdays). This schedule may be adjusted, and the changes will be announced in class and on the course webpage. All tests 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 cases arrangements for an alternate date and time should be made prior to the scheduled test date, if possible.

Final exam: On Tuesday December 11, 2012, 8-10am in LO 1127.

Calculators: A graphing calculator or a computer software such as Maple, Mathematica or Matlab may be useful for solution of some of the homework problems. However, graphing calculators will not be allowed on midterm or final exams. A basic scientific calculator is acceptable, but not necessary for the exams.

Grading: I will use +/- grading system, and will compute the grades as follows:

2 in-class exams	20% each
quizzes	25%
final exam	35%

The percentages are to be 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 for the grades may be modified (in the direction of decreasing only!) at the end of the term, based on the overall performance of the class.