

COURSE ANNOUNCEMENT

Methods of Applied Math II

MATH 762

Spring Semester 2009
MW 4:00–5:15pm
AB 634

Prof. Aleksey Telyakovskiy
alekseyt@unr.edu

Math 762 is the second course in a year long sequence dedicated to studying basic methods of Applied Mathematics. In this sequence we consider a variety of analytical techniques that solve various problems appearing in applications. The emphasis is on the interdependence of mathematics and the applied and natural sciences. To succeed in the course students need to have basic knowledge of differential equations and linear algebra beforehand.

Math 762 would be dedicated to analytical techniques for the analysis of partial differential equations and we may cover some discrete models too. Math 762 is independent from Math 761, so you can take it without taking Math 761. In Math 762 we'll cover conservation laws, Laplace equation, reaction-diffusion equations, wave equation and basics of continuum mechanics. If time allows we'll consider some discrete models, such as difference equations, stochastic models, probability-based models.

Consideration of many topics of applied mathematics require a lot of auxiliary information from different areas of analysis, differential equations, linear algebra, etc. Such information will be compactly presented during the course as needed.

Grade in the course will be based on exams and homework assignments that would include theoretical and maybe computational problems. The main computing language will be MATLAB due to the large number of in-built subroutines with various algorithms. Students can use other computing languages if they prefer them.

Main Text: J. David Logan, *Applied Mathematics*, 3rd edition, Wiley-Interscience 2006.