SYLLABUS

INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS
MATHEMATICS 3363
Spring 2015

Instructor: Dr. Philip W. Walker
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Prerequisite: Math 2433 and either Math 3321 or Math 3331.


Objectives: Upon completion of this course, it is expected that students will be able to solve elementary boundary and initial value problems for partial differential equations. It is also expected that they will have an understanding of trigonometric Fourier series and other orthogonal expansions.

Topics: Course content will include
1. Derivations of some of the partial differential equation problems of physics.
2. Sturm-Liouville and other two-point boundary value problems.
3. Trigonometric Fourier series. Expansions in terms of other orthogonal sequences of functions.
5. Partial differential equation problems on domains of infinite spatial extent.
7. Partial differential equation problems in coordinate systems other than rectangular.

Grading: Graded homework and quizzes 1/6
          Exam I 1/6
          Exam II 1/6
          Exam III 1/6
          Final Exam 1/3