MATH. 3413 PHYSICAL MATH, FALL 2011,  
MWF 11:30-12:20 AM, 114 PHSC

Instructor: Tomasz Przebinda, Room 524, PHSC; home page: http://crystal.ou.edu/;  
e-mail: tprzebinda at gmail.com; tel: 325-0830

Office hours: Thursday 2:30 - 3:30 and Friday 10:25 - 11:25.


Tentative course content:
Separable equations, linear equations, applications.  
Homogeneous, Bernoulli, exact equations.  
Existence and uniqueness for first order ODEs.  
Second order nonhomogeneous equations. Variations of parameters. Mass-spring system,  
resonance.  
First order systems.  
Complex numbers.  
Laplace transform and applications to ODEs. Delta function.  
Fourier series.  
Heat conduction problem with Dirichlet and Neumann boundary conditions.  
String vibration problems.  
Laplace equation on a rectangle.  
Problems in circular and cylindrical regions.  
Legendres equation.

Exams: There will be three 50 - minutes midterm exams, on Monday September 26,  
Monday November 7, Monday December 5, and the final exam on Tuesday, December 14,  
1:30-3:30 114 PHSC. All exams are going to be taken in class, room 114 PHSC.

Homework: There will be weekly assignments, to be handed in on Monday at the  
beginning of the class. Please hand in your homework on time (Mondays 11:30); late  
assignments cannot be accepted.

Use of calculators and technology: You are encouraged to use any technology you  
feel appropriate while studying at home or while doing the homework. However no tech-  
nology, except a paper and pencil, shall be allowed during the exams. (My experience  
shows that copying the solutions to the homework problems increases your homework  
 scores but decreases you exam scores, resulting in a significant negative balance.)
Attendance: I do not plan to check the attendance. Make-ups for missed exams may be appropriate if a student can provide a compelling reason for missing an exam. This does not apply to the final exam and does not apply to the homework. Missing the final exam may lead to the grade “incomplete”.

Final grade: final exam 39% + midterms 17% + 17% + 17% + homework 10%

Students with Disabilities: Any student having a disability that may interfere with the demonstration of his or her abilities should contact me as soon as possible to arrange accommodations necessary to ensure full participation in the course.

Grade of Incomplete: The grade of “I” is a special-purpose grade given when a specific task needs to be completed to finish the course work. This is typically a term paper or other special assignment, so rarely makes sense in a mathematics course. An “I” cannot be given to avoid a low grade in cases where the course work is not strong.