Math 442-001  Partial Differential Equations  Spring 2010

Course:  Partial Differential Equations
Professor:  Andrew Christlieb
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Phone:  (517) 353-3831
e-mail:  christlieb@math.msu.edu
Office Hours:  10:30-12:00 MW

OR BY APPOINTMENT

Book 1:  Applied Partial Differential Equations, 4th
By:  Richard Haberman

Time:  1:50-2:40 M,W,F
Location:  C212 Wells Hall
Prerequisites:  MTH 235 or MTH 255H or MTH 340
Web:  http://www.math.msu.edu/~andrewch/mth442.html

Course Topics:

- The Heat Equation (Ch 1)
- Separation of Variables (Ch 2)
- Fourier Series (Ch 3)
- The Wave Equation (Ch 4)
- Sturm-Liouville Eigenvalue Problems (Ch 5)
- Higher-Dimensional PDEs (Ch 7)
- Nonhomogeneous Problems (Ch 8)
- Fourier Transforms (Ch 10)

Goals:  The students will gain a fundamental understanding of: some classic PDEs (such as the wave and heat equation), techniques for solving PDEs, and expanding functions in orthogonal expansions such as Fourier series.

Homework:  There will be 8 to 10 homework assignments. Most assignments will be given over a two week period. Home work is due by 4pm on the specified date. Each day an assignment is late, a 10% penalty will be assessed.

Quizzes:  No Quizzes

Exams:  One in class exam and one final exam.

Course Grade:

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<tr>
<th>Component</th>
<th>Percentage of Final Grade</th>
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<tbody>
<tr>
<td>Homework</td>
<td>50%</td>
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<tr>
<td>In class Mid-Term</td>
<td>20%</td>
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<td>In class Final Exam</td>
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**Grade Review Policy:** No grades will be discussed immediately before class, in class or immediately following class. I am happy to discuss questions about a particular grade assigned during office hours, or by appointment.

**Unclaimed Assignment Policy:** Assignments not retrieved on the day of return can be picked up during office hours only.

**E-mail Policy:** I will respond to e-mail during office hours.

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**Final Exam Monday May 3rd 12:45-2:45 pm**