In lower level courses you were given many problems each day. Now there will be 5-8 problems a week. All homework is to be handed in. I expect you to work in groups. Each group should have no more than 3 people.

Homework:
- You may pick up homework assignments off of the webpage given below.
- Please hand in one homework per group with a different person writing the problems up each time. Make sure everyone in the group has looked over the homework set before it is handed in. YOU ARE ALL RESPONSIBLE FOR THE HOMEWORK. NO LATE HOMEWORK ACCEPTED.
- I keep track of who writes up the homework so make sure that you share the write ups proportionally.
- If I cannot read a problem, I will not grade it.
- After the first week I will give you a group number which you are to use throughout the semester.
- Homework will be due on Fridays. You must turn it into class by 9am. I will not accept homework left in my mailbox or office. If you want me to look it over beforehand, please give it to me by Wednesday in class and you may pick it up on Thursday morning in the Mathematics Department office.
- Each problem will be worth 10 points.
- Problems must be sequential.
- If you need to make corrections to a homework problem you must rewrite it and place the correction at the back of the homework. If a problem is not correct you must rewrite the complete problem.
- Make sure that the problem set is stapled with the homework assignment attached as the cover. 5 points will be marked off each time for not following these directions.
- Occasionally attendance will be taken and added to the homework grade.

To get to this website (if you have trouble accessing this site try a different browser; I have heard that Google Chrome works best):
- kathy.websitesbyelizabeth.com
- Go to 407

There will be three exams. The problems on these exams will be similar to the homework problems. For example, if you were given a homework problem

\[ y'' + y = 0, \quad y(0) = 1, \quad y'(0) = 0; \]

an exam question may be

\[ y'' + 4y = 0, \quad y\left(\frac{\pi}{2}\right) = 3, \quad y'\left(\frac{\pi}{2}\right) = 1. \]
Each exam is worth 25% of your grade. There will not be a comprehensive final. The tests will be open book, open notes, open homework, closed to other people and of course no calculator. I will make them up so that you should finish in an hour, but I will give you 3 hours. The first test will be on Wednesday, February 24 and the second on Wednesday, April 6. These exams will begin at 5 p.m. The third exam will be given during finals week on Friday, May 13 from 8:00-10:00am (since it is in the morning, I can be there early to give you more time).

I believe this will be a fun and interesting class! Of course my door is always open and I would be more than happy to help you at anytime. Please feel free to ask questions at any time.

<table>
<thead>
<tr>
<th>Homework</th>
<th>25%</th>
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<tbody>
<tr>
<td>Tests</td>
<td>75%</td>
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</tbody>
</table>

- Extra credit of 30 points added to your homework grade if you help at the regional science fair on Thursday, March 10th and 20 points added to your homework if you help on Tuesday, March 29th at Math Field Day.

Grading Scale:

<table>
<thead>
<tr>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
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<tbody>
<tr>
<td>85↑</td>
<td>90↑</td>
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<tr>
<td>70-84</td>
<td>80-89</td>
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<tr>
<td>60-69</td>
<td>70-79</td>
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<td>50-59</td>
<td>60-69</td>
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<tr>
<td>49↓</td>
<td>59↓</td>
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Course material. Approximate time line:

3 weeks will be spent on first order linear and nonlinear equations using the method of characteristics. Existence and uniqueness will be discussed as well as domains of solutions.

3 weeks will be spent on the wave equation. We will start with the method of characteristics, then go on to separation of variables. Uniqueness will be discussed as well as classification of equations.

3 weeks will be spent on Fourier Series and convergence. Also, conditions on what types of functions guarantee convergence. The heat equation will be solved and uniqueness will be discussed.

3 weeks will be spent on Laplace’s equation on a rectangle and circle. Higher order dimensions will be discussed.

3 weeks will be spent on the maximum principle and uniqueness of elliptic equations.