Math 4263 - Introduction to Partial Differential Equations

http://math.okstate.edu/people/lebl/osu4263-s15/

Go to D2L at http://oc.okstate.edu/ for homework, grades, discussions, announcements, etc...

Lecture: MWF 1:30PM - 2:20PM, MSCS 514

Lecturer:

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Text/Schedule:

Stanley J. Farlow, Partial Differential Equations for Scientists and Engineers, 1993, Dover Publications.

As you can guess from the book this course is mainly about PDEs (partial differential equations). The book is sectioned into "lectures". The (very optimistic) plan is to cover lectures

1-13, 15-17, 19-28, 30-33, 36-39, and a lecture or two on Finite Element Method (not in the book)

(each lecture in the book may take one or two actual lectures). This plan is very tentative and will be adjusted (some lectures skipped most likely) as we go on and as time constraints will become clearer. Each lecture in the book has some recommended reading at the end.

The books that I have and know and can recommend as reading are: Zachmanoglou and Thoe *Introduction to Partial Differential Equations with Applications* or Berg and McGregor *Elementary Partial Differential Equations*.

For help on differential equations in general (mostly ODE but with a small amount of PDE material especially with respect to Fourier Series) see my book

Notes on Diffy Qs (free download).

Also here are some errata and some random thoughts on Farlow that could be useful in reading the book.

Grading:

As usual, 90% and above guarantees an A, 80% and above a B, 70% a C, and 60% and above a D. Curve will be applied if needed, and so those cutoff percentages could move downwards.

Exams:

Exam 1: Friday, February 20 (same time/room as class), 20% of your grade.

Exam 2: Friday, March 27 (same time/room as class), 20% of your grade.

Final Exam: TBA (same room as the class), 40% of your grade. (Comprehensive, think of the final exam as half exam 3 and half comprehensive final)

Exam Policies: No books, calculators or computers allowed on the exams or the final. **One page (one sided) of handwritten notes allowed on the exams.**

Homework:

Assigned weekly (some weeks may be skipped) announced on D2L.

Worth 20%, spot checked (*spot checked* means: some spot(s) of each homework checked, and all will be collected). Part of the grade will be simply for turning the homework in. Lowest 2 homework grades dropped (so no late homeworks).

Missed Work:

No makeup or late homework (two lowest are dropped anyhow), but feel free to turn homework in **early** if you you cannot for whatever reason turn it in on time. For exams, there will be reasonable accommodation if you have a valid and **documented** reason, and the documentation is provided **in advance** unless absolutely impossible. If you have a university approved (see the syllabus attachment) final conflict exam, you must tell me at least two weeks befre the final exam week, so so that we can figure out what to do.

Syllabus attachment:

See the official syllabus attachment, for some more information.

Interesting links:

Wolfram Alpha (http://www.wolframalpha.com). It's like Google for math.

Speaking of Google: try typing something like x^2-y^2.

Although no, Google will not likely solve your homework problems for you. Even if it did, it would not be a good idea. The reason for doing the homework is to learn how to do it. If you simply try to find solutions online, and did manage to find them, you will not learn anything and you will see the result of this on the exams.

It never hurts to learn how to use LaTeX if you want to type up stuff with lots of math. It not only increases legibility of your work, it also increases your nerd factor by an order of magnitude (that's a good thing). For easy to use LaTeX frontends try TeXworks (Linux, Windows, Mac) or TeXShop (Mac). Or perhaps give LyX (Linux, Windows, Mac) a go. Lyx might be the easiest of the bunch, though it is not as flexible.