# Mathematics 135                                    Winter 2011

Instructor: John Palmieri, PDL C-538, 543-1785, `palmieri@math.washington.edu`, office hours Tuesday 1:30–2:20, Wednesday 1:30–3:30.

TA: Mark Bun, PDL C-115, office hours TBA.

Class time and place: MTWThF 10:30–11:20, SIG 226

Web page: `http://www.math.washington.edu/~palmieri/Math135/` or
    `http://faculty.washington.edu/jpalmier/Math135/`

Text books: *Calculus, One and Several Variables*, tenth edition, by Salas, Hille, and Etgen; *Ordinary Differential Equations* by Tenenbaum and Pollard.

Goals. Study infinite sequences and series, differential equations, and vector calculus.

Class structure. Four days a week – every weekday but Thursday – you meet with the professor, John Palmieri. Those days will mostly be lectures, but depending on my mood and the material, there may also be small group work, large group discussions, presentations by students, etc. For example, I might discuss a topic briefly, after which you would work in groups on problems while I try to help when you get stuck.

Quiz sections and the TA. On Thursdays you will meet with the TA, Mark Bun. This is a good time to ask questions about the homework and other material from the course. There will also be quizzes most Thursdays. Mark will also hold regular office hours.

Homework. I will assign homework weekly; see the course web page for the assignments. Homework will be due in class **each Thursday**. Typically there will be two components to the homework: practice problems that you don't turn in, and (usually harder) problems that you do turn in.

The best way to learn mathematics is to use it to solve problems. So the practice problems are important. Since you don't have to turn them in, you need to decide how many to do: if you think the material is familiar and straight-forward, you might just do a few; if the material is new or confusing, you should do more. You might even do more than the ones I've assigned, if you want more practice.

For the problems to be turned in: some of these might be hard. Struggling with a problem is perfectly normal; in fact, it's actually helpful, because it will force you to come to grips with the underlying mathematics. When you get stuck, here are some steps to take:

- take a break from the problem – get some exercise, have a snack, listen to music – and come back in a few hours

- bounce ideas off of your classmates

- ask for hints from me or the TA or someone else who knows how to do it

Finally, you might ask for more than a hint; you might extract a solution from me or the TA if you pester us enough, or you might find something helpful on the internet. Use this as a last resort! Being able to follow someone else's reasoning on a problem is not at all the same as solving it yourself. You learn a lot more by solving it yourself.

Having said this, the homework policy for this class is: you may work with other people on your homework, but you must write your solutions yourself. If you find a solution in a book or some other source, please provide a reference. (But you will learn more if you don't rely too much on your classmates or outside references. I strongly encourage you to try the problems on your own.)

Late homework will not be accepted.

Midterms. We will have two midterm exams: the first will be on **Wednesday, January 26**, and the second on **Friday, February 25**. After I've graded each midterm, you will have a few days to correct some of your mistakes for some extra credit. I'll give you more details as the time approaches.

The final exam is on **Monday, March 14, 8:30–10:20am**.

Grading. The various components of the course are weighted as follows:

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| midterms | 40% (20% each) |
| final | 30% |
| homework | 20% |
| quizzes | 10% |

I will drop your lowest homework score and your lowest quiz score at the end of the quarter.

The mathematics. As noted above, we'll be studying infinite sequences and series, differential equations, and vector calculus. This covers material from Math 307, some of 327, and a bit of 126. We'll be covering Chapters 11-14 in Salas, Hille, and Etgen, and assorted parts of Tenenbaum and Pollard (focusing on Lessons 19-40).

Next quarter we will cover the rest of the material from Math 126 as well as from Math 308, matrix algebra and linear algebra. There will likely be another text book for that material.