APM 384: Syllabus

Janosch Ortmann

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Lecture times:	Mondays 10-12 and Wednesdays 11-12
Lecture location:	BA 1130
Office location:	ES 4145 (Earth Sciences, 4th floor)
Tutorial times:	Tuesday 5-6 or Wednesday 10-11
Tutorial location:	Tuesday WB130, Wednesday SF2202
Course web site:	http://individual.utoronto.ca/ortmann/APM384-13F.html

This document contains relevant information about the Fall 2013 course APM 384 *Partial Differential Equations*. Please read it carefully.

I will assume that you regularly check your U of T email address, as required by university regulation. All important announcements will be communicated by email.

Textbooks

Required: We will mostly be using *Applied Partial Differential Equations with Fourier Series and Boundary Value Problems* by Richard Haberman, fifth edition, published by Pearson Prentice.

Recommended: For a more mathematical and rigorous treatment of some of our material, *Partial Differential Equations, An Introduction* by Walter Strauss.

Assessment

Grades in this course will be determined by a mid-term, a final exam and bi-weekly assignments that will be marked and returned to you by the TA. The final mark will be composed as follows:

- assigments 25%
- midterm 25%
- final exam 50%

No electronic aides will be allowed (or needed) in the midterm and final exam. It is the students' responsibility to ensure that the allotted exam time is available.

Assigmnents submitted after the deadline will be given zero marks. If you feel you are unable to submit an assignment on time for medical, personal, family or other unavoidable reasons, please contact me as early as possible, but in any case well before the deadline. The only exception to this are health problems that preclude you from contacting me, in which case you should contact me as soon as you return to class. If you miss an assigment deadline or test for medical or disability related reasons, in addition to getting in touch with me you will usually need to provide at least one of the following documents:

- U of T Verification of Student Illness or Injury form
- Student Health or Disability Related Certificate
- a letter from Accessibility Services.

If you legitimately miss a mid-term or assignment I may re-assign the weight of your final grade to other assessed work.

While you are encouraged do discuss lecture material and exercises with other students, **any work that you submit must be your own**. I will take any dishonest submissions *very* seriously. In addition to jeopardising your learning (because the exercises will help you test your understanding) you risk fairly harsh punishment that can range beyond getting zero marks for the course.

Topics covered

Roughly I am hoping to cover Chapters 1-3, 5, 6 and 9-12 of Haberman, with a few extra topics. We will discuss the following:

- Characterisation of PDEs, order of a PDE.
- Initial and boundary conditions. Directional derivatives and characteristics.
- Separation of Variables
- Harmonic Functions
- Fourier Series
- Dirac's and Green's functions
- Higher-order equations
- Numerical methods

Accessibility

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability or health consideration, please feel free to approach me and get in touch Accessibility Services at (416) 978-8060, so they can advise you about the support options available. Their website is http://accessibility.utoronto.ca