DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES
UNIVERSITY OF TORONTO MISSISSAUGA

MAT311H5F LEC0101
Partial Differential Equations
Course Outline - Fall 2013

Class Location & Time	Tue, 11:00 AM - 12:00 PM CC 3150 Thu, 01:00 PM - 03:00 PM CC 2130
Instructor	Jacopo De Simoi
Office Location	DV-3297
Office Hours	Tue 01:00 PM - 02:00PM, Thu 11:00AM - 12:00PM
Telephone	905-569-4630
E-mail Address	jacopods@math.utoronto.ca
Course Web Site	https://portal.utoronto.ca/webapps/portal/frameset.jsp
Teaching Assistant	Charles Tsang
E-mail Address	ctsang@math.utoronto.ca

Course Description

Partial differential equations of applied mathematics, mathematical models of physical phenomena, basic methodology. [36L, 12T]

Prerequisite: MAT102H5, 232H5/233H5, 212H5/242H5/244H5
Corequisite: MAT236H5 (SCI)
Distribution Requirement: SCI

Students who lack a pre/co-requisite can be removed at any time unless received explicit waiver from department.

Textbooks and Other Materials

Partial Differential Equations: An Introduction. Walter A. Strauss. 2nd Edition (2007).Wiley (978-0470054567)

Assessment and Deadlines

Type	Description	Due Date	Weight
Assignment	8 Homework assignments	On-going	30%
Term Test	Midterm	2013-10-24	30%
Final Exam		TBA	40%
		Total	100%

More Details for Assessment and Deadlines

Homework will be due on the following Thursdays, in the beginning of the class:

Sep 19, Sep 26, Oct 3, Oct 10, Oct 31, Nov 7, Nov 14, Nov 21.

The assignments will be posted to the Blackboard course page the preceding Thursdays.

There will be one in-class two-hour midterm test on Thursday, October 24. No printed or written aids will be allowed.

Penalties for Lateness

10% reduction in mark per day of lateness

Procedures and Rules

Missed Term Work

Extensions for homework deadlines will be considered only for medical reasons. Late assignments will lose 10% per day. Special consideration for late assignments or missed exams must be submitted via e-mail within a week of the original due date. There will be no make-up midterm tests or final. Justifiable absences must be declared on ROSI, undocumented absences will result in zero credit.

Missed Final Exam

Students who cannot write a final examination due to illness or other serious causes must file an online petition **within 72 hours of the missed examination**. Original supporting documentation must also be submitted to the Office of the Registrar **within 72 hours of the missed exam**. Late petitions will **NOT** be considered. If illness is cited as the reason for a deferred exam request, a U of T Medical Certificate must show that you were **examined and diagnosed at the time of illness and on the date of the exam, or by the day after at the latest**. Students must also record their absence on ROSI on the day of the missed exam or by the day after at the latest. Upon approval of a deferred exam request, a non-refundable fee of $70 is required for each examination approved.

Academic Integrity

Honesty and fairness are fundamental to the University of Toronto's mission. Plagiarism is a form of academic fraud and is treated very seriously. The work that you submit must be your own and cannot contain anyone elses work or ideas without proper attribution. You are expected to read the handout How not to plagiarize (http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize) and to be familiar with the Code of behaviour on academic matters, which is linked from the UTM calendar under the link Codes and policies.

Final Exam Information

Duration:	2 hours
Aids Permitted:	1 page(s) of single-sided Letter (8-1/2 x 11) sheet

Additional Information

The course serves as an introduction to the basic theory of partial differential equations: strong emphasis will be on the most important techniques for solving and analyzing the solution of specific equations, such as the wave equation, diffusion equation and Laplace's equation. We will learn to pose and solve meaningful boundary value and initial value problems for the above mentioned types of PDEs and, in the process, we will familiarize with the basics of Fourier analysis.

The course will approximately cover chapters 1-6 of the textbook.

Students are expected to have a solid background in calculus, particularly of multivariable calculus. Understanding of basic linear algebra and ordinary differential equations is also required, although less critical.

In particular students should already know:

- how to compute partial and directional derivatives of a given multivariable function; equality of mixed partial derivatives; chain rule in one and multiple dimensions;
- Green's theorem and the divergence theorem for computing integrals of derivatives; Jacobians (that is, the change of variables formula for multiple integrals);
- how to solve a few basic ODEs

Last Date to drop course from Academic Record and GPA is November 4, 2013.