MA 4160 **Fall 2019**

Partial Differential Equations

Course Website: www.math.mun.ca/˜ou

Instructor:	Dr. C.H. Ou, Office HH-3014, Phone 864-8779, Email: ou@mun.ca
Office Hours:	Monday 9:30–12:30, Friday 9:30–12:30 or by appointment
Lectures:	Slot 07. Classroom: ED 3023
Labs:	None.
Text:	**Applied Partial Differential Equations** Fourth edition, by R. Haberman (any version)
Prerequisite:	MATH 3260 Differential Equations.
Evaluation:	10% assignments, 30% Term Test, 60% Final Examination.

Important Dates

Oct 16 **TERM TEST #1.** (held in the classroom).
Nov 13 **TERM TEST #2.** (held in the classroom).

Notes

- There will be an assignment in about every two weeks. You must hand in your completed assignment at the **beginning of class** on the due date. Late assignments will **not be marked**.
- **Copy of assignments** from other students is a serious **academic offence** and you will get zero for this course.
- Attendance may be taken at the classroom. It will be used in deciding borderline cases at the end of semester.
- The test dates and class syllabus are tentative and may be subject to changes. It is the student responsibility to attend class regularly and to make note of any change.

Course Outline

- Heat Equation: Section 1.1-1.4.
- Method of Seperation of Variables: Sections 2.2; 2.3; 2.4.1; 2 .5.1.
- Fouries Series: Sections 3.1-3.5.
- Wave Equations: Section 4.1-4.5.
- Sturm-Liouville Eigenvalue Problem: 5.2.1;5.3;5.4;
- Higher Dimensional PDEs: Sections 7.2-7.4;
- Non-homogeneous Problem: Section 8.2.
- Green's functions for Time-independent problems: Section 9.2-9.3.
- Infinite Domain Problems (Fourier Transform Techniques): Section 10.2, 10.4
- The method of Characteristics (part of Chapter 12, if time is enough)