

Course Outline for Mathematics 742 Winter Term 2015–2016

Course Home Page The course home page and syllabus is at [Homepage and Syllabus: Applied Mathematics II: Partial Differential Equations](#)

Instructor Dr Walter Craig, Hamilton Hall 418, extension 23422

Office hours: Friday 10:00–11:30 or by appointment

Course meeting times: TuTh 10:00 – 11:30 in HH 312

Recommended text *F. John, Partial Differential Equations, Fourth Edition*

Course notes are planned to be posted on the course homepage.

Course structure and assessment There are two lectures per week. You should plan to attend all of these. There will be six problem set assignments, on average one every two weeks. In addition there will be a final exam for the course during finals weeks. Grades will be based on these two assessment exercises, with 50% weight on the problem sets and 50% on the final exam.

Course objective There are three principal objectives of this course: (1) to learn the fundamental properties and the solution techniques for partial differential equations in their most common mathematical settings, (2) to learn about applications of partial differential equations to problems in the physical sciences and geometry, and (3) to appreciate the connectivity of mathematics, in that many questions in mathematics and its applications can be reduced to ones in differential equations, while conversely many techniques coming from other areas of mathematics are useful in their applications to solving and to understanding solutions of partial differential equations.

MSAF In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar Requests for Relief for Missed Academic Term Work.

Academic Accommodation of Students with Disabilities Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or email sas@mcmaster.ca. For further information, consult McMaster University's Policy for Academic Accommodation of Students with Disabilities.

McMaster Policy on Academic Integrity You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. The academic credentials that you earn are rooted in principles of honesty and academic integrity. Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g., the grade of zero on an assignment, loss of credit with a notation on the transcript (the notation reads: Grade of F assigned for academic dishonesty), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty, please refer to the Academic Integrity Policy, located at: [Academic Integrity Policy](#). The following illustrates only three forms of academic dishonesty: 1) plagiarism, e.g., the submission of work that is not one's own or for which other credit has been obtained; 2) improper collaboration in group work; 3) copying or using unauthorized aids in tests and examinations.

Please Note The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of students to check **their McMaster email** and course websites weekly during the term and to note any changes. Announcements will be made in class.