

MATH 473 (MAST 666/MAST 841), Sec. A
Partial Differential Equations
Winter 2025

Instructor: Dr. A. Stancu
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Class Schedule: Tuesdays & Thursdays, 11:45-13:00.
Note: There will be a mid-term break from February 24 to March 2.

Office Hours: Tuesdays, 10:00-11:30 a.m.

Prerequisites: **MATH 264 & 265** or an equivalent multivariable calculus course.
MATH 370 or an equivalent course in ordinary differential equations.

Required Textbook: *Partial Differential Equations: A First Course*, by Rustum Choksi, AMS 2022.
AMSTEXT/54, ISBN-13: 978-1-4704-6491-2; **eBook** ISBN: 978-1-4704-6867-5.
An errata to this book is [here](#).

Advanced Level: *Partial Differential Equations*, Lawrence C. Evans, 2010,
Graduate Studies in Mathematics, Vol. 19, AMS; ISBN-13: 978-1-4704-6942-9;
eBook ISBN: 978-1-4704-1144-2.

Topics: The following topics outline the content of the lectures: first-order PDE and the method of characteristics; the wave equation; the diffusion equation; Laplace's equation and harmonic functions; distributions; fundamental solutions and Green's functions; Fourier series; boundary value problems.

Graduate students will complement this content by guided independent study on more technical aspects of these topics, or other topics at the instructor's recommendation depending on individual mathematical interests, current background, and areas of study.

Final Exam: To be scheduled by the Exams Office.

PLEASE NOTE: Students are responsible for finding out the date and time of the final exam once the schedule is posted by the Examination Office. Any conflicts or problems with the scheduling of the final exam must be reported directly to the Examination Office, **not** to your instructor. It is the Department's policy and the Examination Office's policy **that students are to be available until the end of the final exam period. Conflicts due to travel plans will not be accommodated.**

Final Grade: Homework 20%, Midterm Evaluation 30%, Final Evaluation 50%.
Undergraduate and graduate evaluations will differ in content.

If the grading scheme for this course includes graded assignments, a reasonable and representative subset of each assignment may be graded. Students will not be told in advance which subset of the assigned problems will be marked and should therefore attempt all assigned problems.

The homework will be assigned approximately every two weeks, during class, and posted on Moodle. In case of a student's absence or late arrival, it is the student's responsibility to seek the assignment online and submit it on time. **No late assignments will be accepted.**

The midterm exam is scheduled for Thursday, March 6th in class. Please be aware that a missed test cannot be made up.

It is the Department's policy that tests missed for any reason, including illness, cannot be made up. If you missed the midterm because of illness (to be confirmed by a valid medical note), the final exam counts for 80% of your final grade, while the remaining 20% will be contributed by the assignments.

Student Services

You may wish to access the many services available to you as a Concordia student. An overview of these resources can be found here: <https://www.concordia.ca/students/services.html>

Academic Integrity and the Academic Code of Conduct

This course is governed by Concordia University's policies on Academic Integrity and the Academic Code of Conduct as set forth in the Undergraduate Calendar and the Graduate Calendar. Students are expected to familiarize themselves with these policies and conduct themselves accordingly. "Concordia University has several resources available to students to better understand and uphold academic integrity. Concordia's website on academic integrity can be found at the following address, which also includes links to each Faculty and the School of Graduate Studies: <https://www.concordia.ca/conduct/academic-integrity.html>" [*Undergraduate Calendar, Sec 17.10.2*]

Behaviour

All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications.

Concordia students are subject to the [Code of Rights and Responsibilities](#) which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in University activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual. Failing to comply with the Code may result in charges and sanctions, as outlined in the Code.

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Extraordinary circumstances

In the event of extraordinary circumstances and pursuant to the [Academic Regulations](#) the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the change.