



MA52300 Introduction to Partial Differential Equations

PURDUE UNIVERSITY | FALL 2021

Course Info

Section: 001 (CRN 38485)

Time and Place: MWF 1:30–2:20P in UNIV 301

Course Web Page: <https://www.math.purdue.edu/~arshak/ma523>

Instructor: Arshak Petrosyan

Contact: arshak@purdue.edu

Office Hours: MWF 12:30–1:30, or by appointment, in MATH 836

Course Description: First order quasi-linear equations and their applications to physical and social sciences; the Cauchy-Kovalevsky theorem; characteristics, classification and canonical forms of linear equations; equations of mathematical physics; study of Laplace, wave and heat equations; methods of solution. 3.000 credit hours.

Textbook: The main textbook for the course is

[E] Lawrence C. Evans, *Partial differential equations*, 2nd ed., Graduate Studies in Mathematics, vol. 19, American Mathematical Society, Providence, RI, 2010.

Occasionally, we may also use the following book to supplement [E]:

[J] Fritz John, *Partial differential equations*, 4th ed., Applied Mathematical Sciences, vol. 1, Springer-Verlag, New York, 1991.

Homework: There will be weekly homework assignments to be collected through [Gradescope](#), typically due at 11:59pm on Wed. No late homeworks will be accepted, however the lowest homework score will be dropped. For more information, see [Homework](#) page.

Exams: There will be one midterm (evening) exam covering the first half of the course and one final exam covering the second half of the course (so the final exam is not comprehensive). The exact time and place TBA. The appropriate information will be posted on the [Exams](#) page.

Grading: Your homework and exam scores will be available in [Gradescope](#) and [Brightspace](#). Your final score will be computed according to the scheme

$$\text{Final Score} = 0.4 \text{ ME} + 0.4 \text{ FE} + 0.2 \text{ HW},$$

where ME, FE, HW are the scores (in %) for the midterm exam, final exam, and the homework, respectively.

Academic Integrity: As a reminder, all students must comply with Purdue's policy for academic integrity:

<https://www.purdue.edu/odos/academic-integrity/>

Students with Disabilities: Purdue University strives to make learning experiences accessible to all participants. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone at 765-494-1247.

If you have been certified by the Disability Resource Center (DRC) as eligible for accommodations, you should contact your instructor to discuss your accommodations as soon as possible. Here are instructions for sending your Course Accessibility Letter to your instructor:

<https://www.purdue.edu/drc/students/course-accessibility-letter.php>

Classroom Guidance Regarding Protect Purdue: Any student who has substantial reason to believe that another person is threatening the safety of others by not complying with Protect Purdue protocols is encouraged to report the behavior to and discuss the next steps with their instructor. Students also have the option of reporting the behavior to the [Office of the Student Rights and Responsibilities](#). See also [Purdue University Bill of Student Rights](#) and the Violent Behavior Policy under University Resources in Brightspace.

Academic Guidance in the Event a Student is Quarantined/Isolated: If you must miss class at any point in time during the semester, please reach out to me via email so that we can communicate about how you can maintain your academic progress. If you find yourself too sick to progress in the course, notify your adviser and notify me via email. We will make arrangements based on your particular situation. Please note that, according to [Details for Students on Normal Operations for Fall 2021](#) announced on the Protect Purdue website, "individuals who test positive for COVID-19 are not guaranteed remote access to all course activities, materials, and assignments."

Emergencies: In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructor via email or phone. You are expected to read your @purdue.edu email on a frequent basis.