

MATH266C
SPRING 2018

WILFRID GANGBO

1. This course meets for lectures on Mondays, Wednesdays and Fridays from 2:00 to 2:50 pm in MS 7608. The course will give a rigorous introduction to Applied Partial Differential Equations. The recommended book for that is *Partial Differential Equations, Volume 19*, by Lawrence C. Evans. We start with an introductory section including a justification of the concept of weak solutions and an example which illustrates well-posed PDEs. We cover 4 important classes of linear equations (Transport, Laplace, Heat and Wave equations). We will cover Hamilton–Jacobi equations and briefly connect it to optimal transportation theory, a vibrant theory of analysis. We end with a discussion on Sobolev spaces.

2. My office is MS 7945, and office hours will be on Mondays, Wednesdays and Fridays from 1:10 to 2:00 pm, or by appointment. I may be reached by email at wgangbo@math.ucla.edu.

3. **Homework.** Homework will be assigned and collected roughly every other week in class. It will be graded and promptly returned to you, usually the following week. The assignments will be announced in class well in advance, and posted on the course website. Your score on each homework assignment will be based on a few randomly chosen problems. **Late homework will not be accepted**, but your lowest homework score will be dropped. The next HW problems can be found at

<http://www.math.ucla.edu/~wgangbo/academic/math266C/>

4. **Grading.** Your final average in this class will be computed as the average of your three best homework scores.

5. **Grader.** Yuming Zhang; paulzhangyuming@gmail.com

6. **Academic integrity.** Please, review the regulations at the following website:

<http://www.deanofstudents.ucla.edu/Student-Conduct>

7. **Notes.** You are not allowed to use cell phone in the classroom. Your homework should be your own work and you are not allowed to copy from your classmate.

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