

Partial Differential Equations - MATH5406 [Winter 2021]

Course Information

- Course Dates: January 11th to April ?
- Lectures/questions on zoom: Tuesday 9am-10am

Instructor

- Course Instructor: Emmanuel Lorin (elorin@math.carleton.ca, office #4239)

Assessment

- Assignments: 25%
- Midterm: 25%
- Final Exam: 50%

Some References

- *Partial Differential Equations*, Lawrence C. Evans, AMS.
- *Introduction to Partial Differential Equations*, M. Renardy, R. Rogers, Springer.
- *Partial Differential Equations*, F. John, Springer.
- *Partial Differential Equations, Methods and Applications*, R.C. McOwen, Pearson Education

Course Content

- Introduction.
- Analytical solutions to elementary PDE: transport equations, wave equation, heat equation, Schrödinger equation.
- Introduction to conservation laws.
- Distributions theory.
- Sobolev spaces.
- Weak solutions. Second order elliptic PDE.
- Nonlinear hyperbolic equations and systems (if time permits).