



- Code: DT0114
- Type of course unit: Compulsory (Master Degree in Mathematics curriculum Generale), Compulsory (Master Degree in Mathematical Engineering curriculum Comune)
- Level of course unit: Postgraduate Degrees
- Semester: 1

Number of ects credits: (Master Degree in Mathematics) 6 (workload 150 hours), (Master Degree in Mathematical Engineering) 6 (workload 150 hours)

Teachers: Corrado Lattanzio

- 1 Course objectives** Knowledge of mathematical methods that are widely used by researchers in the area of Applied Mathematics, as Sobolev Spaces, distributions. Application of this knowledge to a variety of topics, including the basic equations of mathematical physics and some current research topics about linear and nonlinear partial differential equations.
- 3 Course prerequisites** Basic notions of functional analysis, functions of complex values, standard properties of classical solutions of semilinear first order equations, heat equation, wave equation, Laplace and Poisson's equations.
- 4 Teaching methods and language** Lectures
Language: English
Reference textbooks
 - G. Gilardi, *Analisi 3*. McGraw–Hill.
 - V.S. Vladimirov, *Equations of Mathematical Physics*. Marcel Dekker, Inc..
 - C.M. Dafermos, *Hyperbolic Conservation Laws in Continuum Physics*. Springer.
 - L.C. Evans, *Partial Differential Equations*. AMS.
 - M.E. Taylor, *Partial Differential Equations, Nonlinear equations*. Springer.
 - H. Brezis, *Sobolev Spaces and Partial Differential Equations*. Springer.
- 5 Assessment methods** Oral exam