

# Introductory remarks

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## Functional Analysis (FA)

- combines linear algebra & analysis
- is a theory of infinite-dimensional vector spaces and their linear (and nonlinear) maps

FA has lots of applications

- Partial Differential Equations (PDE's)
- Quantum Mechanics (FA is its language!)
- Calculus of Variations
- Harmonic Analysis
- Approximation theory
- Numerical maths
- Probability theory (& Math. Finance)

## Chapter 0: Recapitulation of basic notions

The most fundamental things on Topological & metric spaces are treated in the blaudout, available online.

Please study carefully! If any questions: can (possibly) be discussed in Tutorials.

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