

PhD courses 2018/2019, IST & FCUL

1st semester

IST

- Differential Equations and Dynamical Systems
 - Infinite Dimensional Dynamical Systems.
- Algebra and Topology
 - Homotopy Theory.
- Geometry
 - Differential Geometry.
 - Lie Groups and Lie Algebras.
- Mathematical Physics
 - Feynman Integral and Applications.
- Real Analysis and Functional Analysis
 - Algebras of Operators.
 - Topics in Operator Theory: Riemann-Hilbert problems.
- Numerical Analysis and Applied Analysis
 - Mathematical and Numerical Methods in Fluid Dynamics.
- Logic and Computation
 - Functional Logic and Proof Theory.
 - Computability and Complexity of Learning.
 - Modal Logic.
 - Theory of Computability, Complexity and Information.
 - Advanced Topics in Information Security I.

- Probability and Statistics
 - Advanced Topics in Statistical Inference.
 - Advanced Topics in Multivariate Analysis.

FCUL

- Mathematical Analysis
 - Ordinary and Functional Differential Equations.
 - Dynamical Systems (M/D).
 - Evolution PDEs/Problems (M/D).
- Algebra
 - Inverse Semigroups.
 - Theory of Matrices.
 - Representation Theory of Groups.
 - Universal Algebra (M/D).
- Geometry and Topology
 - Introduction to Algebraic Geometry (M/D).

2nd semester

IST

- Differential Equations and Dynamical Systems
 - Calculus of Variations and Partial Differential Equations.
 - Discrete Dynamical Systems.
 - Ergodic Theory and Hyperbolic Dynamics.
- Geometry
 - Symplectic Geometry.

- Mathematical Physics
 - Mathematical Relativity.
 - String Theory.
- Real Analysis and Functional Analysis
 - Topics in Operator Algebras: Normed Jordan Algebras.
- Numerical Analysis and Applied Analysis
 - Inverse Problems for Differential Equations and Medical Imaging.
- Probability and Statistics
 - Advanced Topics in Probabilities and Stochastic Processes.

FCUL

- Mathematical Physics
 - Topics in Mathematical Physics.
 - Introduction to Random Matrix Theory.
- Mathematical Analysis
 - Partial Differential Equations (M/D).
 - Stochastic Analysis (M/D).
 - Calculus of Variations (M/D).
- Algebra
 - Theory of Algebraic Numbers (M/D).
- Geometry and Topology
 - Riemann Surfaces and Integrable Models.
 - Lie Groups and Lie Algebras (M/D).
 - Differential Topology (M/D).
- Logic and Computation
 - Mathematical Logic (M/D).