



DIPARTIMENTO
MATEMATICA



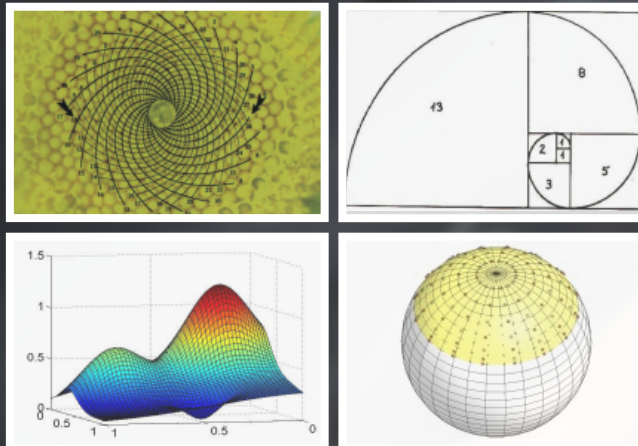
UNIVERSITÀ
DEGLI STUDI
DI PADOVA

Department of Mathematics



Dipartimento di Matematica
Via Trieste, 63
35121 Padova (Italy)

An active department. A lively city.



PhD Course in Mathematical Sciences

The PhD in Mathematical Sciences at the University of Padua offers an advanced course of studies.

The programme has two curricula from which the students can choose: Mathematics and Computational Mathematics. The fields covered in the two curricula are: Algebra, Mathematical Analysis, Mathematical Physics, Geometry, Logic (Mathematics curriculum), Probability, Numerical Analysis, Optimization (Computational Mathematics curriculum).

Each academic year 6-8 fellowships are offered to Italian and International applicants by the Italian Ministry of Education, University and Research (MIUR), the Cariparo Foundation and through European Research grants (e.g. European Community ITN SADCO Network, Algant Network). Students typically finish in three years.

Maths department is next to the centre of Padua, rich of culture and fun. All the other Departments are nearby and easy to reach. Our students can be part of an international community and they benefit of different facilities offered by the University, also for recreation.

For further information visit our webpage:

<http://dottorato.math.unipd.it/>

Apply by: June 26, 2018, at 13:00
Entrance info:
<http://www.unipd.it/en/node/1053>

Mathematics at UNIPD

The PhD programme in Mathematical Sciences at the University of Padova is a highly advanced course of studies in the area of Mathematics and its Applications.

Students develop their studies according to their interests and under the direct supervision of one or more Faculty members. They are addressed to attend also International schools, meetings and conferences from the first year of studies, supported by additional funding.

Advanced courses are offered by the Department of Mathematics each year, taught by Faculty members or by well-known international specialists.

Students become part of a research group of the Department where they pursue a research project. They are immediately exposed to advanced research problems of current international interest in the area of Mathematics and its Applications and can become part of the International research groups connected with the Department.

Students receive a broad training to be prepared for a research job in public or private institutions, both academic and non-academic.

Research fields within the PhD Programme in Mathematical Sciences

Curriculum in Mathematics

- Additive Categories, Representation Theory, Group Theory
- Algebraic and Complex Analysis
- Algebraic Geometry, Number Theory
- Calculus of Variations, Geometric Measure Theory, Geometric Analysis
- Deterministic and stochastic control theory and differential games
- Partial Differential Equations
- Celestial Mechanics and KAM Theory, Hamiltonian Systems
- Foundations of Logic

Curriculum in Computational Mathematics:

- Mathematics for economics: differential games and quantitative finance
- Numerical approximation methods for image processing, differential and integral equations, linear and nonlinear algebra
- Operation Research: integer programming, combinatorial optimization and methods for large scale problems
- Stochastic processes and applications to finance, physics and biology.

Some course offered next year:

- The fundamental group
- Introduction to Optimal Transportation
- Lie Groups and Symmetry
- Convex optimization and convexification techniques
- Foundations of Data Analysis

Past courses in "Computational Math" curriculum:

- Numerical Linear Algebra for Ill-Posed Problems
- Basics in stochastic simulation
- Optimization methods for large-scale problems
- Mean-field control and new types of games
- Interior Point Methods for Very Large Scale Optimization
- Approximation and complexity

Past courses in "Mathematics" curriculum:

- Introduction to Geometric Measure Theory
- Module Categories
- Lie ring methods in group theory
- Variational Mean Field Games
- Geometric Control Theory And Self-Propulsion In Fluids
- Compact complex surfaces
- Systems of conservation laws