

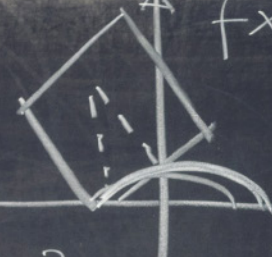


UNIVERSITÀ  
DI TRENTO

# MSc in Mathematics

$$F_{1P} = v \frac{F_{IT}}{\mu} = 1$$

$$F_{2P} = v \frac{F_{zT}}{\mu} = 1$$



$$f(x) = \frac{1}{\sqrt{3}} \frac{e^x + e^{-x}}{2}$$

$$M = \frac{\sum_{i=1}^N x_i}{N} = \bar{x}$$

$$T(z) = \int \log \frac{z-1}{d} dz \Rightarrow$$

$$(a) \sqrt{ax^6y}$$

$$y = \frac{1}{3}x - \frac{1}{8} \left( \frac{1}{x} \right) \quad \Delta = b^2 - 4ac$$

$$x_1 = \frac{-3-5}{2} = -\frac{8}{2} = -4$$

$$x_2 = \frac{-3+5}{2} = \frac{2}{2} = 1$$

$$e_1 = f(e)$$

$$M = \frac{y_2 - y_1}{x_2 - x_1}$$



$$x = \frac{-7}{3} e^{1x} +$$

$$A = \frac{D^1 \cdot D^2}{2} \quad \mathbb{E} = \int_0^1 x$$

$$x^2 - 2\sqrt{2x+2} = 0$$

$$8^{-\frac{1}{3}} = \frac{1}{8^{\frac{1}{3}}} = \frac{1}{\sqrt[3]{8}} = \frac{1}{2}$$



$$y = mx + q$$

$$\alpha_R \quad \alpha_R = 180^\circ \pi$$



$$\int \frac{dz}{\sqrt{ch^2 x - 1}} = \frac{1}{a} \tan \left( \frac{\pi}{4} - \frac{ax}{2} \right) +$$

$$\sin \alpha \quad \sin \alpha$$



$$(a+b)^2 = a^2$$

## Master of Science in Mathematics

The MSc in Mathematics aims at teaching and developing **future mathematicians and scientists**, who acquire a thorough knowledge and understanding of those **theoretical principles** which are the basis of mathematical sciences. Students can choose among **four curricula** (Advanced Mathematics, Teaching and Scientific Communication, Mathematics and Statistics for Life and Social Science, Cryptography), that share a set of common objectives, including:

- ability to **work autonomously** and to assume responsibility for plans and structures of great dimensions;
- overview of the scientific **research method**, the method of **logical-deductive reasoning**, as well as the **inductive methods** applied to experimentation;
- knowledge of the fundamentals of **pure mathematics** and one advanced specialization along with their mathematical applications.

## Programme overview

### Degree awarded

Master of Science - "Laurea Magistrale" - in Mathematics

### Language

English

### Workload

The total workload for each student is 120 ECTS (European Credit Transfer System)

### Intake

September each year

### Duration

2 years full-time

### Fees and funding (approximate range)

- EU: 340€ - 3.400€ (based on income/merit)
- Non-EU: 1.000€ - 4.500€ (based on merit)
- Income/merit based scholarships and tuition waivers available



## Admission

### Application deadlines (check online for updates)

- February for non-EU citizens living outside Italy
- From June to November: rolling admission for EU citizens and non-EU citizens regularly living in Italy

### How to apply

- Access the online application form
- Upload the required documents
- Submit your application online by the deadline
- Check online for more information and updates: [www.unitn.it/mastermaths](http://www.unitn.it/mastermaths)

### Selection criteria

- Assessment of previous studies and their coherence with the programme
- Academic curriculum
- English language proficiency (if higher than B1)
- Statement of purpose
- Possible interview

### Requirements

- Bachelor degree (or equivalent) in Mathematics or related fields
- Strong background in Mathematics
- English at B1 level of the Common European Framework of Reference for Languages

## Study Plan

The MSc in Mathematics is divided into **four curricula**:

### Advanced Mathematics

It includes a large spectrum of areas of mathematics, meant for students who want to continue their education at the **Doctorate level**.

It offers three particular study plans:

- General Advanced Mathematics
- Advanced Algebra and Geometry
- Calculus of Variations, Partial Differential Equations and Dynamical Systems

### Teaching and Scientific Communication

It prepares students for school teaching and scientific dissemination (e.g. museums, shows).

## Mathematics and Statistics for Life and Social Science

It offers four distinct study plans in applied mathematics:

- Mathematics for Data Science
- Modelling, Statistics and Analysis of Biosystems
- Modelling and Simulation for Biomedical Applications
- Modelling, Statistics and Analysis in Mathematical Finance

## Cryptography

It introduces the theoretical and practical aspects of modern cryptography and error correcting codes and showing how important methods adopted in mobile phones, smart cards, browsers or decoders are constructed starting from very refined algebraic and geometric theoretical instruments.

It offers two particular focuses:

- **internship-oriented**
- **research-oriented**

## Dual Degrees

Beside the several international mobility opportunities active on this master's degree, enrolled students can apply for a dual degree programme with Eberhard-Karls-Universität, Tübingen (Germany).

$B \in$

$\uparrow y$



## Career opportunities

Our graduates are welcomed by **national and international companies** where they can apply their skills in mathematics and **critical thinking**. They usually find a job **within three months and a half** after graduation (Almalaurea).

According to the curriculum and activities chosen, graduates will be able to work in companies and industry, laboratories and research centers, scientific culture dissemination field, services and Public Administration.

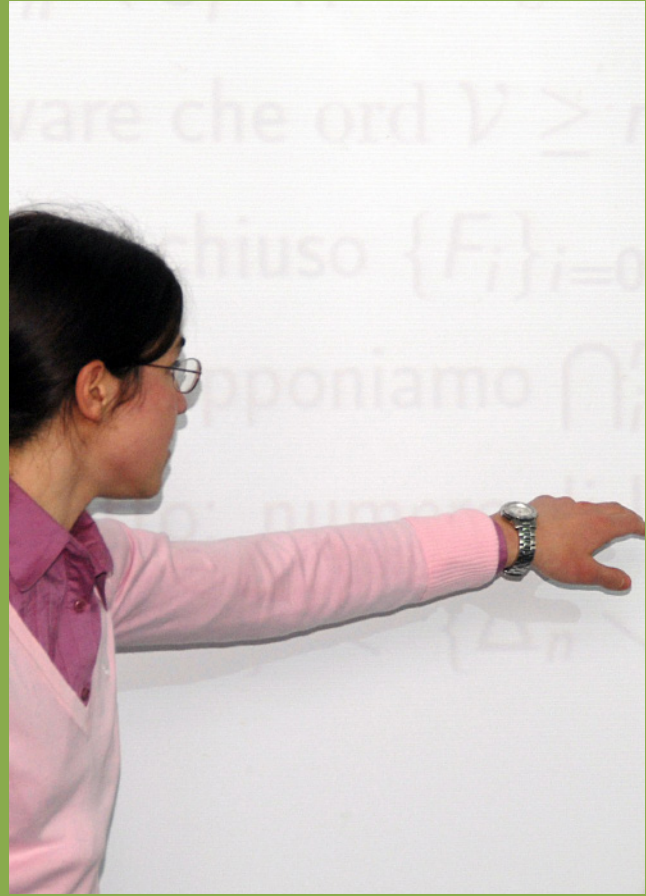
**Flexible thinking**, computational and computer science competences, familiarity with management analysis and treatment of numerical data make them **excellent candidates** in several fields, e.g. computer science, cryptography, finance, engineering, medical science, communication, scientific and academic research.

In particular, graduates can carry out expert work as **application technicians** and **statistical technicians**. They are also fit for the professions of statistical mathematicians and for most of the profiles in Information Technologies.

$\wedge p$  prime

$$K = \{ (x, y) \in \dots \}$$





## CONTACT DETAILS

### International Mobility Office

Science and Technology Area

Via Sommarive, 5 - 38123 Trento, Italy

tel. +39 0461 283976

master-st@unitn.it

[www.unitn.it/mastermaths](http://www.unitn.it/mastermaths)