

The Department of Mathematics and Applications "Renato Caccioppoli" represents one of the most concrete and prestigious realities of University of Naples "Federico II". It was established in 1984 by the aggregation of two historical groups of Neapolitan mathematicians, i.e. the first one enrolled in the Mathematics Institute of the Faculty of Mathematical, Physical and Natural Sciences, and the second one related to the Engineering Faculty. It was subsequently re-founded and renewed within the Polytechnic and Basic Sciences School in 2013. In this context, the master's degree in Mathematics has the chance to develop:

 a solid high-level cultural knowledge, which includes a complete awareness of Mathematics, from both theoretical and applied aspects;

• a deep critical and communicative ability on mathematical problems and methods;

• the interest in research activities (Universities, Research Centers and Companies) to operate in different high-level contexts;

 the ability in developing and analyzing mathematical models for real problems, to be used in different contexts;

• soft-skills and communicative skills for teaching and dissemination activities;

• the ability to interact with trainers of different disciplines, to approach complex problems from a theoretical to an applied point of view;

• experience on mathematical and non-mathematical software platforms;

• creativity, intuition, analytical skills, problem solving, and development of original and new ideas.

Master's Degree Coordinator

Prof. Florinda Capone florinda.capone@unina.it



Scuola Politecnica e delle Scienze di Base www.scuolapsb.unina.it Department of Mathematics and Applications "R. Caccioppoli" (DMA) www.matematica.unina.it

Master Degree in Mathematics www.cs-matematica-magistrale.unina.it

University Guidance Prof. Maria Mellone maria.mellone@unina.it Prof. Savatore Cuomo salvatore.cuomo@unina.it

ERASMUS Guidance

Prof. Marco Lapegna marco.lapegna@unina.it



COLLEGIO DEGLI STUDI DI **SCIENZE**

f'(x)⊜lim

2020 21

MASTER OF SCIENCE

Dipartimento di Matematica e Applicazioni "Renato Caccioppoli"





TRAINING OBJECTIVES

The Master of Science in Mathematics is aimed at providing students with multidisciplinary skills, based on the acquisition of solid mathematical bases and in-depth knowledge of traditional and innovative methodologies. The educational plan is characterized by the possibility of choosing between three different curricula (Generale, Applicativo, Didattico). It aims at training highly qualified professional figures in various fields of Mathematics, while adapting to propensities and specific rational characteristics of each single student. The differences in the educational curricula aim at driving the students to the acquisition of individual soft and problem-solving skills, typical of Mathematics. Their acquisition allows to a global view of mathematical problems and supports technical and specific expertise in many academic and business fields.



The unconditional admission to the Master's Degree in Mathematics is allowed to the students who gained a bachelor degree in Mathematics at University of Napoli Federico II and, in general, at any other Italian university. A DMA committee decides about conditional admissions of students with different Italian or foreign bachelor degrees and indicates the specific courses needed to be completed before admission.

DEGREE PROGRAM

All lectures are in Italian

FIRST YEAR | CURRICULUM GENERALE

| Fundamentals of higher Analysis | 12 |
|--|----|
| Fundamentals of higher Algebra | 9 |
| Foundations of higher Geometry | 9 |
| Free-choice courses – Modeling Applicative training* | 12 |
| Free-choice courses – Advanced Theoretical training* | 18 |

CFU

FIRST YEAR | CURRICULUM APPLICATIVO

| Fundamentals of higher Analysis | 12 |
|--|----|
| Scientific Computing | 9 |
| Fundamentals of higher Mathematical Physics | 9 |
| Free-choice courses – Modeling Applicative training* | 18 |
| Free-choice courses – Advanced Theoretical training* | 12 |

FIRST YEAR | CURRICULUM DIDATTICO

| Fundamentals of higher Analysis | 1 |
|--|---|
| Probability and Statistics - Advanced | |
| Mathematics Education | 1 |
| Numerical Methods and Educational Software | |
| Elementary Mathematics from a higher viewpoint | |
| Fundamental of higher Algebra | |
| or Foundations of higher Geometry | 1 |
| Free-choice courses – Modeling Applicative training* | |
| Free-choice courses – Advanced Theoretical training* | |

SECOND YEAR

(Curriculum Generale/Curriculum Applicativo

| Further Knowledge | 4 |
|--|----|
| Free-choice courses – Affine or supplementary training | 12 |
| Free-choice courses chosen by student | 12 |
| Master Thesis | 32 |
| | |

*A complete list of free-choice courses are available at: http://cs-matematica-magistrale.unina.it

JOB OPPORTUNITIES

The deep knowledge acquired in different mathematical fields allows the master's degree in Mathematics to meet theoretical and application requirements. This makes them highly requested in Scientific Research field, in teaching, in public administration, and in multiple business and industrial areas. They may be able to complete high-profile technical and professional tasks related to the development and analysis of mathematical models and methods for real problems in economics, finance, environmental science, industry, informatics and in any high technological context. They may be employed in scientific dissemination and publishing, with particular regard to the field of Mathematics, as well as in teaching mathematics at any level.

POS STU

POST-GRADUATE STUDY OPPORTUNITIES

The Master Degree in Mathematics provides access to PhD Programs and second level Masters.

LOCATION

All educational and scientific activities take place at Department of Mathematics and Applications "Renato Caccioppoli", University of Naples "Federico II", Via Cintia, Complesso Universitario Monte S. Angelo, Building 5A, I-80126 Naples, Italy.

Connections:

By car: Fuorigrotta exit on Tangenziale di Napoli;

 Rail lines: Metro Line 2 (Campi Flegrei station), Circumflegrea (Mostra station);

• Bus lines: from Piazzale Tecchio to Monte S. Aangelo: line number 615; 180; R6; from Piazza Leonardo (Vomero) to Monte S. Angelo: C33.

• There are also several connections with private buses from the Metropolitan area of Naples and other Campania Cities.

Services

Punto Adisu | Sinapsi Center | Canteens | Bar | Copy service | ATM