Università di Camerino

Mathematics and Applications

+2

Master's Degree Postgraduate Degree
Duration: 2 years - Credits: 120 ECTS
Campus location: Camerino

School of Science and Technology
Mathematics Division

Course Coordinator
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**Bachelor's Degree and Master's Degree
Programmes** https://www.unicam.it/didattica

OVERVIEW

The Master in Mathematics and Applications
- strengthens knowledge of pure mathematics
- offers three different curricula - one on pure mathematics and mathematics education, a second on applications of mathematics to economics and finance, and a third on applications to technology and engineering
- gives students the option to acquire valuable work experience through internships in businesses or schools.

Parallel to the master degree course in Mathematics and Applications, the student can register to the Scuola di Studi Superiori "Carlo Urbani", an institution of excellence, subject to selection procedure based exclusively on merit. For information visit: https://scuolastudisuperiori.unicam.it

ADMISSION REQUIREMENTS

Bachelor's degree in mathematics, or in other disciplines as long as including at least 30 ECTS in mathematics and adequate knowledge of algebra, analysis and geometry.
Further information on admission requirements, pre-admission deadlines, and services for international students is available at http://international.unicam.it

CAREER OPPORTUNITIES

- Italian-speaking students interested in teaching may consider a school internship - please contact Prof. Sonia L'Innocente (sonia.linnocente@unicam.it) for further information.
- Students interested in a career in industry (involving the development and application of mathematical models for finance, commerce or industry), to contact directly Prof. Pierluigi Maponi (pierluigi.maponi@unicam.it)
- Students interested in academic research are advised to consider the PhD programmes of the UNICAM International School of Advanced Studies - see http://isas.unicam.it for further information.
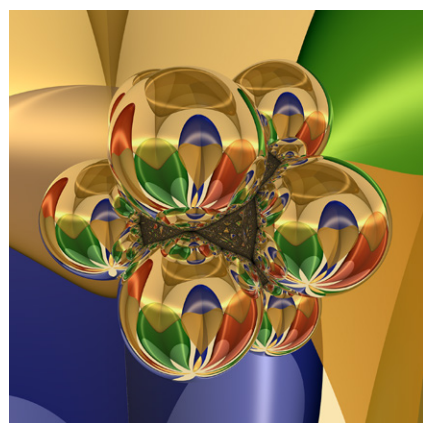
"Sto per concludere la laurea magistrale in Mathematics and Applications, curriculum in Pure Mathematics. Ho esplorato diversi ambiti della matematica teorica, dalla logica alla teoria dei nodi fino alla crittografia, acquisendo una visione ampia della disciplina. Grazie all'ambiente stimolante del dipartimento, ho potuto affiancare allo studio la mia passione per la didattica e la divulgazione scientifica, partecipando a festival e iniziative per il grande pubblico."
Alice

"Il curriculum in Mathematics for Analytics and Finance si è rivelato una scelta stimolante, che mi ha permesso di approfondire le applicazioni della matematica alla finanza e ad altri ambiti, senza tralasciare contenuti teorici. La flessibilità del piano di studi mi ha permesso di seguire i miei interessi e partecipare a diversi eventi. Nell'ultimo anno mi sono concentrato su probabilità e deep learning, trovando spunti utili e attuali per il futuro."
Gabriele

"Il curriculum in Mathematics for Industrial Engineering mi ha permesso di unire una solida preparazione teorica a competenze applicative in ambiti come il controllo dei sistemi dinamici, l'ottimizzazione numerica, il machine learning e la meccanica delle strutture. Grazie al programma Erasmus for Traineeship sto svolgendo un tirocinio al Politecnico di Nancy, dove sviluppo un controllore per veicoli elettrici mirato a ottimizzarne la traiettoria e il consumo energetico. Un'esperienza che ha rafforzato il mio interesse per le applicazioni concrete della matematica."
Serena

Piano Studi

Pure Mathematics

96 ECTS - mandatory:	ECTS
Advanced Algebra and Mathematical Logic (1st year)	12
Advanced Geometry (1st year)	12
Advanced Mathematical Analysis (1st year)	6
Calculus of Variations (1st year)	6
Advanced Applied Mathematics (1st year)	12
Advanced Probability (1st year)	6
Free-choice courses	12
Dissertation	30

12 ECTS among the following courses:	ECTS
Knot Theory (2nd year)	6
Educational Mathematics (2nd year)	6
General Relativity (2nd year)	6

Mathematics for Industrial Engineering

102 ECTS - mandatory:	ECTS
Advanced Algebra (1st year)	6
Advanced Geometry I (1st year)	6
Advanced Mathematical Analysis (1st year)	6
Advanced Applied Mathematics (1st year)	12
Advanced Probability and Stochastic Processes (1st year)	12
Embedded Systems Lab for Industry and Education (1st year)	6
Mechanical Design and Advanced Systems Development (1st year)	12
Free-choice courses	12
Dissertation	30

6 ECTS among the following courses:	ECTS
Machine Learning (2nd year)	6
Advanced Mathematical Physics (2nd year)	6

Mathematics for Analytics and Finance

102 ECTS - mandatory:	ECTS
Advanced Algebra (1st year)	6
Advanced Geometry I (1st year)	6
Advanced Mathematical Analysis (1st year)	6
Advanced Applied Mathematics (1st year)	12
Advanced Probability and Stochastic Processes (1st year)	12
Machine Learning (2nd year)	6
Computational Methods for Finance (2nd year)	6
Dynamic and Stochastic Optimization in Finance and Economics (2nd year)	6
Free-choice courses	12
Dissertation	30

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12 ECTS among the following courses:	ECTS
Inverse Problems in Remote Sensing Applications (2nd year)	6
Quantum Computation (2nd year)	6
Theoretical Physics (2nd year)	6
Computability and Complexity (2nd year)	6
Advanced Mathematical Physics (2nd year)	6
Stochastic Processes (2nd year)	6
Embedded Systems Lab for Industry and Education (2nd year)	6

6 ECTS among the following courses:	ECTS
Knot Theory (2nd year)	6
Inverse Problems in Remote Sensing Applications (2nd year)	6
Calculus of Variations (2nd year)	6

6 ECTS among the following courses:	ECTS
General Relativity (2nd year)	6
Advanced Geometry II (2nd year)	6
Computational Graphics and Data Visualization (2nd year)	6
Dynamic and Stochastic Optimization in Finance and Economics (2nd year)	6
Advanced Statistics (2nd year)	6
Fundamentals of Materials Science (2nd year)	6
Polymer Chemistry and Applications (2nd year)	6
Artificial Intelligence Laboratory (2nd year)	6

* Courses in blue are interdisciplinary and in collaboration with other departments

18 ECTS among the following courses:	ECTS
Advanced Statistics (1st year)	6
Embedded Systems Lab for Industry and Education (1st year)	6
Calculus of Variations (1st year)	6
Computational Graphics and Data Visualization (1st year)	6
Advanced Systems Development (1st year)	6
Parallel and Distributed Programming (1st year)	6
Financial Management and Strategy (1st year)	6
Blockchain and Distributed Ledger Technologies (1st year)	6
Artificial Intelligence Laboratory (1st year)	6

* Courses in blue are interdisciplinary and in collaboration with other departments

ECTN — European Chemistry Thematic Network Association — EUROBACHELOR

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Student Services

Guidance
Scholarships
Welcome - Tutoring
Counseling and psychological well-being
Services for Students with Disabilities and DSA
International mobility

Sustainable Development Goals

a.y. 2025/2026

Information

Guidance
via Gentile III da Varano 2 - 62032 Camerino - 0737 404606 - 403727 - orientamento@unicam.it

Adress Student Offices
(registrations, study plans, university transfers, university contributions)
via Gentile III da Varano 26 - 62032 Camerino
Ticketing: https://segreteriastudenti.unicam.it/

Contributions and registrations
Procedure available at https://miiscrivo.unicam.it/

Educational services, Classrooms, Lesson timetables
https://www.unicam.it/studente

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Polo degli Studenti
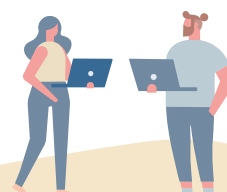
Tasse e contributi

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