UNIVERSITÉ CÔTE D'AZUR

GRADUATE SCHOOL
FORMAL, PHYSICAL AND ENGINEERING SCIENCES



Master's degree
MATHEMATICS AND APPLICATIONS

MATHEMATICAL ENGINEERING

A WORD FROM THE HEAD OF THE PROGRAM



Thomas Rey
Mathematics professor and researcher at LJAD

*"**Our degree program prepares engineers to be multi-skilled mathematicians**, qualified for jobs in a wide variety of fields such as **data, IT, healthcare, finance or aeronautics**.*

*Our program draws from **the globally recognized expertise of the faculty of the J-A Dieudonné laboratory (LJAD)** in analysis, geometry, number theory, probability and statistics, which guarantees students a high-level education and equips them for the challenges of a world revolutionized by artificial intelligence and soon, by quantum computing.*

***Already in the first year of the master'sprogram,** future graduates are given t**he possibility of gaining a head start by alternating work and study**.*

Thanks to our industrial partnerships with famous companies such as Amadeus, Thales and Dassault Systèmes, students easily find internships and work-study contracts.

***Located in the Côte d'Azur region, our program benefits from the presence of leading artificial intelligence institutions** such as the Interdisciplinary Institute of Artificial Intelligence (AI Cluster) and the Franco-European School of Artifical Intelligence (EFELIA). Proximity with Europe's leading technology park in Sophia-Antipolis strengtens our links with the local industrial community."*

2 years alternating work and study

Advanced studies in mathematics

5 specializations

Partner companies

Double degree with EDHEC



TRAINING MATHEMATICAL GENERALIST ENGINEERS

Université Côte d'Azur's mathematical engineering program has been **designed to meet the diverse needs of companies.**

The fundamentals of the program include **data analysis, modeling and simulation along with scientific computing,** taught mainly in the first year.

These skills are then applied and strengthened in a number of fields of application (data industry, life sciences, etc.) in the second year.

Student employability is the main objective of this two-year program alternating work and study, with additional courses and workshops in management, project management, business IT and professional English.

Research projects supervised by industry professsionals are also included in the curriculum, as are internships for students envrolled in the standard full-time program.

THE MAIN FOCUSES OF THE PROGRAM

Fundamentals of applied mathematics

- Generalist courses: probability, statistics, partial differential equations, scientific computing

Computer skills

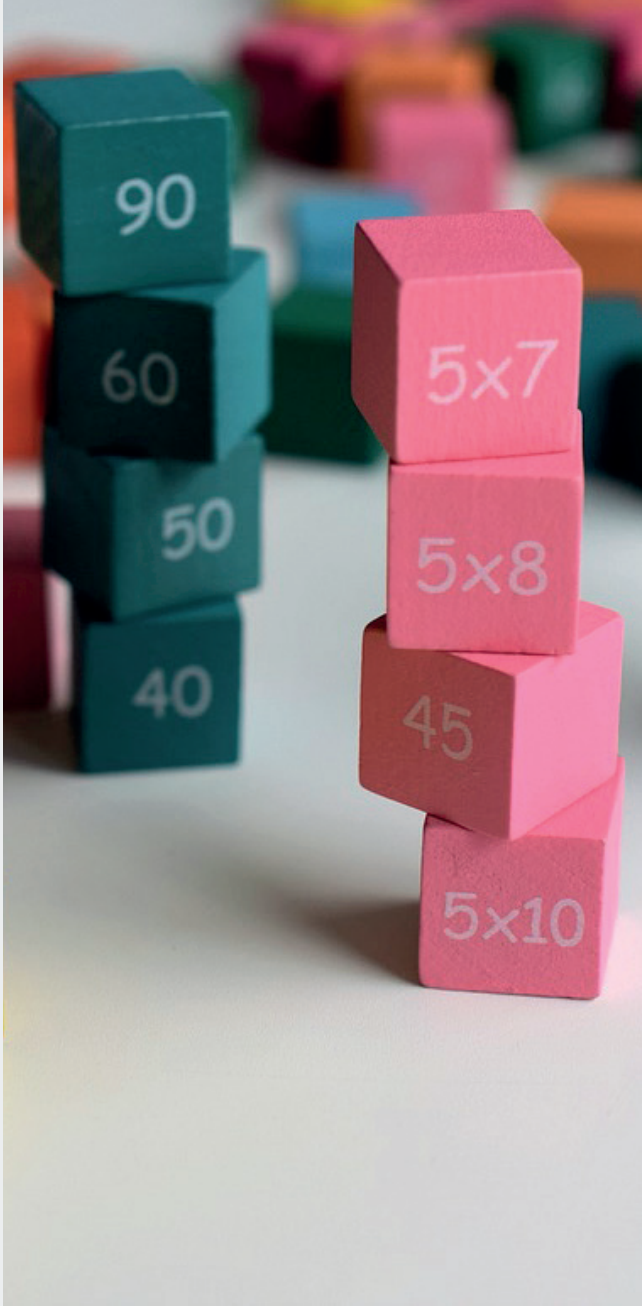
- Basic computer skills: Python, C ++, R, Matlab, SQL, etc.

Five advanced specializations

- Mathematics for data science
- Mathematics and modeling of living systems
- Digital engineering
- Computer science and mathematics applied to finance and insurance
- Data science

Professional preparation

- Workshops: professional lectures on high-performance computing (B. Looss - EDF R&D), good programming practices (A. Bienner - Dolby France), etc.
- Professional research projects
- Practical courses: English (TOEIC validation), management, IT (AWS Cloud Computing certification), project management



2 years ALTERNATING WORK AND STUDY

Master 1 and Master 2 students s**pend 2 days a week in a company during the academic year,** followed by total immersion during the summer.

84% EMPLOYABILITY RATE

Six months after graduation in 2022, **84%* of mathematical engineering graduates had found a job.**

Observatory of Student Life and Professional Integration - Université Côte d'Azur

1 DOUBLE DEGREE WITH EDHEC BUSINESS SCHOOL

The mathematical engineering program offers the best students **a double degree with EDHEC Business School, which gives them access to internationally recognized courses in finance** (master's in management - finance, master's in market and corporate finance), with 40% of tuition fees waived.

2 OPPORTUNITIES TO BOOST YOUR EMPLOYABILITY

> Participation in the Forum Emploi Math, an annual event in the Paris region, to meet employers and explore different career opportunities.

> Meeting with representatives of CIFRE scholarships, to be able to pursue a doctorate with an attractive scholarship while gaining professional experience.

EXAMPLES OF CAREER OPPORTUNITIES

Data scientist

Develop machine learning algorithms that meet the needs of business teams; design machine learning models; anticipate model release; structure and analyze data; etc.

Financial or actuarial analyst

Provide expertise in statistical analysis and modeling; assess, evaluate and rate economic, financial, insurance and social risks; contribute to risk prevention; etc.

Research and development engineer

Participate in a research and development project; design solutions to develop or improve a product, a technical part, a system, etc.; contribute to a company's innovation and technical performance; meet legal and budgetary constraints; etc.

Salary

For a job as a statistician:

Median annual salary: ***€43,250***

Annual starting salary: ***€35,000***

Annual senior salary: ***€60,000***

A WORD FROM AN ALUMNUS



Naoual El MAAROUFI
Financial Risk Officer

"After graduating from Université Côte d'Azur with a degree in computer engineering and mathematics applied to finance and insurance, ***I was given the opportunity to complete my studies working part-time in the financial department of the Caisse d'Epargne Côte d'Azur.*** *I later joined the bank's internal audit department, where I* ***am working in strategic risk management.*** *Most of our assignments focus on data analysis.* ***My studies gave me the mathematical tools and the financial background I need to analyze data in depth and produce relevant studies with greater added value.*** *The curriculum provided me with a wide range of skills (in mathematics, data and finance) and allowed me to be operational straight out of school."*

FORMA SUP MÉDITERRANÉE

DIPLÔME NATIONAL DE MASTER CONTRÔLÉ PAR L'ÉTAT

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