



MASTER OF SCIENCE

Data Science and Engineering



ACCREDITATION

National Accreditation by the French Ministry of Education, Higher Education and Research.

KEY WORDS

Big data, cloud computing, distributed systems, statistical learning, data mining, machine learning, optimization

STRONG POINTS OF THE PROGRAM

- The teaching program benefits from a unique location and from the expertise of renowned industrial partners.
- Sophia Antipolis is considered a major region for telecommunications research and development in Europe.
- EURECOM is a consortium of leading international universities and top ICT companies and has established a synergy with the local industrial environment on advanced research topics.
- During their Master, students will have access to cutting-edge technological platforms within EURECOM's Wireless Communications Laboratory.
- Students are supervised by an international faculty of renowned researchers.
- Paid internships of 6 months
- The program includes an intensive French language course prior to the beginning of the academic year
- Fully dedicated staff providing administrative support to international students
- A strong international exposure providing essential intercultural tools (only school in France with 2/3 of international students and professors)

Students receive a monthly allowance during the internship which may help them cover part of their costs.

SCHOOL PROPOSING THE MASTER

EURECOM, a "Grande Ecole" with a 100% curriculum in English and part of the Institut Mines-Telecom. It is located on the French Riviera in Sophia Antipolis, Europe's largest Technology Park.

INDUSTRIAL PARTNERS

SFR, Orange, ST-Microelectronics, SAP, BMW Group, Monaco Telecom, Symantec, IABG

LANGUAGE OF TEACHING

Courses are given in English. French is taught as a foreign language throughout the program. A 3-week intensive French course is organized in September.

ENVIRONMENT

The "Big Data" phenomenon is rooted in the field of data science and engineering, which aims at developing both computer and mathematical tools for data storage and processing.

An increasing volume of data are daily produced by modern day industrial processes (in fields such as energy, intelligent transport systems, aviation industry and many others...), and fuelled by the rise of multimedia tools and the Internet of Things in our daily life.

The master in Data Science and Engineering aims at combining computer and statistical sciences to develop cutting-edge and fundamental tools to efficiently address applied issues related to data processing. Beyond its importance in scientific research and industry, data analysis helps develop methods, algorithms and software able to extract value out of huge masses of heterogeneous data with several dimensions. The curriculum offers a cohesive blend of technical classes in data mining, software engineering, distributed systems coupled with fundamentals in Business, Innovation and Project Management to develop profiles which are highly valued by corporate recruiters.

COMPETENCIES ACQUIRED

- Provide the theoretical background and the applied know-how to manage and improve large-scale distributed systems
- Acquire tools and methods to develop algorithms of data analysis and conceive data storage and processing systems.
- Develop an in-depth understanding of the fundamentals in other relevant fields such as: image and speech processing, semantic Web Technologies; communications and computer security...
- Acquire managerial knowledge to provide and lead innovation in Business Intelligence and Data Analytics (Project Management, Organization, innovation management...)
- Get an Introduction to advanced research topics

PROGRAM

Scientific and technical modules

- Distributed systems and cloud computing
- Introduction to statistical learning
- Operating systems
- Fundamentals of Optimization
- Mathematical methods for engineers
- Algorithmic machine learning and data mining
- Advanced Statistical Inference
- Modern computer architectures
- Secure Communications
- Introduction to semantic Web Technologies

- Speech and Audio processing
- Cyber crime and Computer forensic
- Distributed software and middleware
- Software development methodologies
- Information theory
- Mobile application and services
- Human Machine Interaction for the Web

Social Science and Management modules

- Introduction to Management
- Personal Development and new product development
- Entrepreneurship and Capital Venture
- Innovation and product development
- Intellectual property Law
- Sustainable ICTs
- Business Simulation
- Sociological approaches of Telecom Technologies
- General Introduction to Law: contracts, setting up business
- Project Management

Also part of the program

Company visits and seminars

Scientific and Technical Projects

French language

Professional coaching (workshops on CV/ professional interviews)

6-month thesis in Industry or Research lab

ADMISSION REQUIREMENTS

Entry requirements include a Bachelor's degree in the engineering fields covered by the Master program (Electrical engineering / computer sciences / communication engineering...).

Possible admission into the 2nd year of the Master for the students who already have a Master degree (year 1) or at least a four-year degree.

Preselection based on academic records and motivation.

LANGUAGE REQUIREMENTS

English (at least one of the following)

- Mother tongue;
- Study in an English speaking country;
- English Language Qualification
 - TOEFL 550 PBT 213 CBT 79-80 IBT
 - IELTS: 5.5
 - TOEIC: 750
 - Cambridge CAE



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TYPICAL JOBS

The Master in Data Science and Engineering opens to a wide array of industries and business domains (client relation management, logistics, production, finance, marketing...). The need for trained specialists in Big Data is constantly growing as shown by recent studies and results in very good employment prospects for future graduates.

Some of the fields:

- Retail
- Finances and banking
- Manufacturers (car, aviation)
- Services providers (Telecommunication, energy...)
- Science and research

PROFESSIONS

- Data analytics engineer
- Big Data architect
- Research and development engineer
- Consultant
- Product Manager for Big Data solutions
- Business Intelligence Analyst
- Business Analytics solutions provider

APPLYING

All applications should be made on line

→ <https://www.eurecom.fr/en/postulant/new>

The web site provides full information on admission procedures.

COST

Tuition fees for the full program (2 years):

€11,000

€5,000 (Europe and Erasmus zone)

Possible partial fee waivers and scholarships

DURATION

2 years (starting in september)

LODGING

Accommodation is organized with the administration staff or EURECOM in public and private student halls of residence, rooms or shared flats.

DETAILS OF THE SCHOOL

EURECOM

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450 Route des Chappes,

CS 50193

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