International Master's Degree in DATA SCIENCE

The international Master's degree in Data Science is the second year specialty of Nantes Université's Master's degree in Computer Science. Through this programme, students will acquire the scientific and technological skills towards a data scientist profile within a computer science degree. With case studies and an internship, they will also gain methodological and practical experience in conducting a high-level innovative process in the field of data science.

Data science is a major scientific and technological area of computer sciences, founded on the fields of data analysis, machine learning and databases. It leads to produce methods and technologies to enable data-driven progress in these social, scientific and economic activities.

Syllabus

Third semester (30 ECTS)

(i.e. first semester of this second year of master)

- Deep learning - 3 ECTS
- Semantic AI - 3 ECTS
- Advanced graphs and networks - 3 ECTS
- Reinforcement learning and recommender systems - 3 ECTS
- Graphic models - 3 ECTS
- Visual analytics - 3 ECTS
- Pattern mining - 3 ECTS
- Ethics, data and AI - 3 ECTS
- Data intensive processing - 3 ECTS
- Research methodology and case study - 3 ECTS

Fourth semester (30 ECTS)

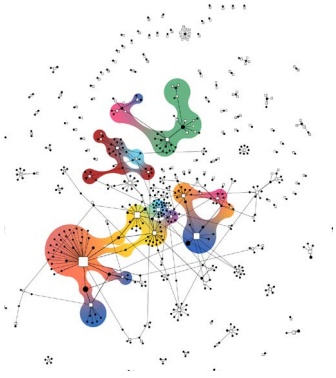
(i.e second semester of this second year of master)

The second semester is dedicated to a fulltime scientific and technical internship (minimum 5 months) related to a research & development project conducted in academic labs or private companies.

Every student is guaranteed an internship within the research lab LS2N Laboratoire des Sciences du Numérique de Nantes, where they join the life and activities of a research group in data science, which has cooperations with companies and academic partners. During the internship, students will contribute to one of the lab's research projects and work on bibliography, define an original scientific proposal, implement and conduct experimental evaluations and defend their thesis. Alternatively, students may also seek an R&D internship in industry.

Academic calendar

Courses start in early September.



Skills

> Develop core scientific competencies, practical and methodological skills on data usage

> Understand how data science applies to industry and be aware of its social, economic and scientific impact

> Conduct a research or development project in the data analysis domain

Career Opportunities

The goal of this Master's programme is to train students towards a data scientist profile. The master's environment should facilitate future involvement in Ph.D. positions in the field or an R&D data scientist position in a company.

Business sectors

> Data scientist

> R&D engineer

> Education and research

Hosting research lab

The laboratory of Digital Science of Nantes

https://www.ls2n.fr/?lang=en

Polytech Nantes

As the graduate school of engineering of Nantes Université, Polytech Nantes benefits from the scientific and educational environment of a university.

Polytech Nantes is the founding member of the Polytech group, a national network of 15 graduate engineering schools in France.

20% foreign students

+70 Partner schools

Admission

The Master's Degree is a two-year degree. At Polytech Nantes, only the second year is accessible, so applicants should hold a degree which is at least a 4-year degree in higher education (i.e. a 3-year Bachelor is not acceptable).

Applicants should be able to demonstrate (from transcripts of their degrees) good knowledge in, not necessarily all, but in most of the following fields:

> software development (e.g Python, R, C++, software engineering)
> mathematics (statistics, probability and optimization)
> relational databases (theory and practice)
> report writing

Application

> For students coming from a partner university with Polytech Nantes, please contact the international office coordinator of your home university concerning the enrolment.

> For students coming from a country that is part of the Campus France procedure, please enrol with Campus France first, and then send us the requested documents below.

> For students coming from a country that is not part of the Campus France procedure, please send us directly the following documents :

- a detailed CV in English (including the precise content of your studies, which topics were studied each year, grades/ marks obtained, score obtained for an international test of English, reports you may have written during your studies)
- a cover letter
- a complete transcript in English of years of study at the University
- a copy of your passport

Complete the application form on our website:
www.univ-nantes.fr/polytech/internationalmasters

Cost

The cost corresponds to education and training costs as well as French courses, cultural outings and student social security*.

**It is included if you are less than 28 years old. If not, you will have to pay your own social security.*

More information :
https://polytech.univ-nantes.fr/en/financial-and-practical-information

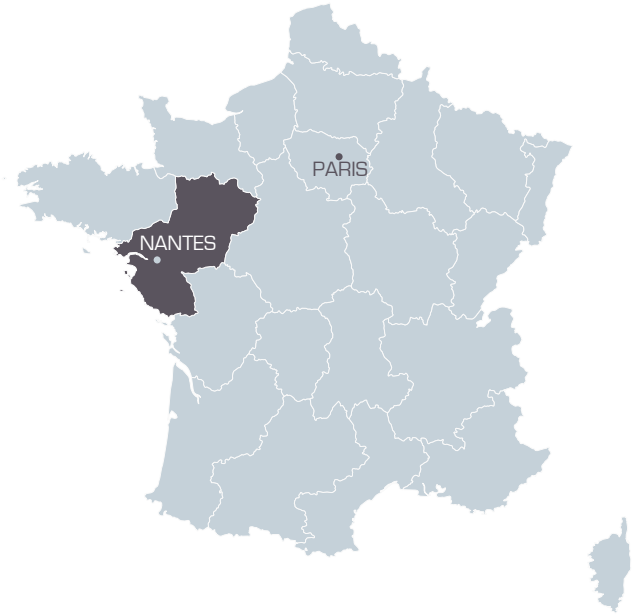
Accommodation

The rent for students' accommodations may vary between €350 and €450 per month (allow for a deposit : usually 1 month rent). The housing market is saturated in September. It is highly recommended to seek accommodation in June or July. Expect to pay for insurance for any accommodation, as well as the housing tax for accommodation in town.

Location

The programme courses are located in Nantes, on the Chantrerie Campus which hosts several Graduate Schools, with over 4,000 students, two university restaurants, a technology library, as well as about 30 companies of advanced technology.

Nantes agglomeration (670,000 inhab.) is located close to the Atlantic Ocean and is regularly rated as one of the most pleasant French cities to live in. Thanks to its beautiful parks, efficient public transport and other policies for sustainable development, Nantes has been awarded the status of European Green Capital.



Language

The programme mainly aims at international students and is taught in English. A good command of the English language is required (B2 score as defined by the Council of Europe).

Contact

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polytech.univ-nantes.fr