International Master's Degree in EMBEDDED TECHNOLOGIES & ARTIFICIAL INTELLIGENCE

This programme is the second year specialty of the Master in Electronics, Electrical Energy and Automation from Nantes Université. It is aimed at future experts in the design, control and deployment of intelligent and communicating embedded systems.

The topics covered concern embedded AI, the design of intelligent systems, and the management of wireless communications using artificial intelligence approaches. The programme offers an interdisciplinary education paradigm, designed to deliver high-level training and researchers.

The objective of this course is to provide broad training on smart embedded systems with the possibility of specialising in areas that cover the theoretical and practical aspects of the development of advanced digital systems and wireless communications.

Syllabus

Third semester (30 ECTS)

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

Model and tools:

- Computer tools for connected objects
- AI fundamentals
- Mathematics for connected objects

Signal processing:

- Random signal processing
- Advanced signal processing

Technologies for connected objects:

- Power consumption and reliability
- Embedded OS
- Edge computing

Architecture and design methodologies:

- Architecture of embedded systems
- Design of hardware/software architecture

Scientific publishing and professionalization:

- Bibliography
- Bibliographic methods and tools

Innovative and entrepreneurial management

Advanced digital communications:

- AI for advanced digital communications
- Antenna processing

Embedded AI:

- Design of embedded systems
- Embedded software

Fourth semester (30 ECTS)

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

INTERNSHIP: a position in a renowned lab

Skills

> integrate knowledge, in several relevant domains
> identify, formulate and handle complex problems within the area
> create technical solutions that fulfill human and societal needs
> show an ability independently or within a group, to create relevant connected objects

Career Opportunities

Business sectors

> R&D engineer in industry or research
> Electronic system architect
> Higher education and research through doctoral training

Hosting research labs *(in Nantes)*

LS2N www.ls2n.fr
(Laboratory of Digital Science of Nantes)

IETR - CNRS www.ietr.fr
(Institute of Electronics and Digital Technologies)

IMN - CNRS https://www.cnrs-imn.fr/
(Materials Science Institute)

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 16 graduate engineering schools in France.

20% foreign students

+70 Partner schools

POLYTECH NANTES

Pôle Sciences et technologie
Nantes Université

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 give evidence (from transcripts of their degrees) and show good knowledge in the following fields:

> computer science or engineering
> information technology
> telecommunications

Requirements

> **Transcripts of records, GPA**
> **Ranking in the promotion (position of student/number of students)**
> **87 TOEFL / 785 TOEIC / 5.0 IELTS / B2**

Application

> For students **coming from a Polytech Nantes partner university**, please contact your international coordinator who will deal with your enrolment.

> For students coming from a country that is **part of the Campus France procedure**, please enrol with Campus France campusfrance.org/en/application-etudes-en-france-procedure

> For students coming from a country that is **not part of the Campus France procedure**, please Complete the application form on our website (univ-nantes.fr/polytech/internationalmasters) and send us the following documents:

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

Cost

The price includes the education and the training costs, as well as the French courses for foreigners, some cultural outings and the 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

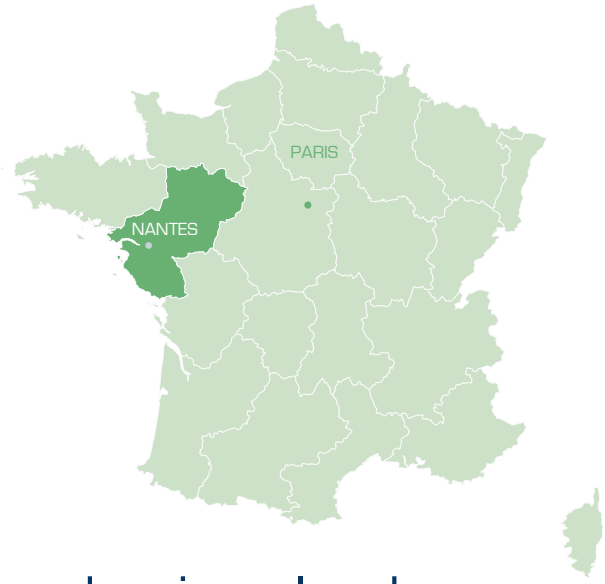
Accommodation

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 is held in Nantes, on the Chantrerie Campus which hosts several Graduate Schools, with over 4,000 students, two university restaurants, as well as about 30 companies of advanced technology.

Greater Nantes (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.



Academic calendar

Courses start in early September.

Language

The programme is entirely taught in English, thus, a good command of the English language is required (B2 score as defined by the Council of Europe). Please, note that French students also apply.

Contact

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polytech.univ-nantes.fr