



INTERNATIONAL MASTER'S DEGREE

/ WIRELESS EMBEDDED TECHNOLOGIES

This MSc program is aimed at future experts for the design, control and deployment of high-performance communicating embedded systems as a basis of the IoT paradigm. This requires a wide knowledge including wireless, transmission systems, antennas design, as well as some aspects of computer science. Professionals are therefore multi-field engineers or researchers rather than narrowly focused specialists. A dedicated module on innovation and entrepreneurship is also included in the program. This Masters's program also offers a gateway to PhD studies.

INTERNATIONAL MASTER'S DEGREE / WIRELESS EMBEDDED TECHNOLOGIES

DIGITAL COMMUNICATION AND PROPAGATION
EMBEDDED SYSTEM ARCHITECTURE
TELECOMMUNICATIONS
WIRELESS AND MOBILE

/ SYLLABUS

The Wireless Embedded Technologies Master's degree proposes a new cross-disciplinary education paradigm, designed to provide high-level training for professional engineers who plan to become technical leaders in the burgeoning field. The purpose of this Master's program is to provide a broad education in Communicating Embedded Systems with the opportunity to specialize in areas that cover theoretical as well as practical aspects of embedded systems development. Students will be able to follow some courses from the ECN Master's in Real-Time systems.

All courses are taught in English, except the module for innovation and entrepreneurship. French courses are organised for foreign students (see language chapter).

Syllabus structure (60 ECTS) :

First Semester (30 ECTS) core program :

- Models and mathematics - 7 ECTS
- Signal processing - 5 ECTS
- Communicating objects technologies - 5 ECTS
- Architecture and methodologies for embedded systems - 5 ECTS
- Tools and methodology for research - 5 ECTS
- Innovation and entrepreneurship - 3 ECTS

Second Semester (30 ECTS) stream and elective syllabus :

Second Semester (30 ECTS) stream and elective program :
Students choose one of the following three streams:

- Antenna and propagation - 5 ECTS,
- Communications systems architecture - 5 ECTS,
- Advanced hardware and software architecture of embedded systems - 5 ECTS.

- Internship (25 ECTS) : a position of 5 months in a recognized lab.

/ CAREER OPPORTUNITIES

The very active market of Internet of Things creates considerable opportunities for innovation. Potential employers of Embedded Systems graduates are companies that develop electronic components and embedded systems or telecommunications operators. Like many of our previous candidates you will have opportunities with large international companies, work with start up R&D initiatives in all possible areas or go further in education in the form of PhD studies.



/ SKILLS

- To integrate knowledge, in an independent way and with a critical eye
- To identify, formulate and handle complex problems within the area
- To create technical solutions that fulfill human and societal needs
- To show an ability to independently or within a group to create relevant systems

/ HOSTING RESEARCH LABS



IETR
(Electronics and Telecommunications Institute of Rennes)



LS2N
(Digital Sciences laboratory of Nantes)



IREENA
(Nantes Atlantique Electrical Engineering Research Institute)



IMN
(Materials Institute of Nantes)

/ ADMISSION

Students enroll for a 2 semester program. A total of 60 ECTS must be validated to graduate. Equivalences can be considered (up to 15 ECTS) taking into account the student's previous experiences (Master's and Bachelor's courses). At Polytech Nantes, only the second year is accessible, so applicants should earn a degree which validates at least a 4-year degree in higher education (i.e 240 ECTS) and should be in one of the following fields : *Computer science or engineering, Information technology, Telecommunications.*

/ CONTACT

→ Send the requested documents to :

master-wet@univ-nantes.fr

/ THE ENROLMENT

→ For students coming from **a partner university** with Polytech, 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 requested documents below.

→ 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

→ an identity photo

→ a recommendation letter

➤ Fill in the application form on our website www.univ-nantes.fr/polytech/internationalmasters

/ LANGUAGE

The program 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). Introductions to French language and European culture are provided locally at Polytech Nantes (Gavy Campus - Saint-Nazaire), (included in the fees and coordinated with the Master's program), but there are no prerequisites in the French language.

/ COSTS

This cost corresponds to education and training costs, and furthermore, it includes an internship in a lab, 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 :

www.univ-nantes.fr/polytech/internationalmasters

/ INTERNSHIP

During the 2nd semester, students complete a 5 month research thesis/internship in a laboratory or company which allows them to be paid around €2500 (€500 per month).

/ ACADEMIC CALENDAR

The courses start in early September.

/ LOCATION

For the Master's degree in **Data Science, Thermal Science and Energy, Visual Computing and Wireless Embedded Technologies, courses** are located in Nantes, on the Chantrerie Campus which hosts **5 Graduate Schools**, with **over 2,000 students, two university restaurants, a technology library**, as well as about 30 companies of advanced technology.

Nantes (600,000 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.

For the Master's degree in **Electrical Energy and Microalgae Bioprocess Engineering, courses** are located in Saint-Nazaire, a coastal town of Western-France with several advantages for students on biotechnological fields :

The Gavy campus hosts over 3000 students in various engineering courses (biotechnology, process, structural and electrical), two university restaurants and a university library just located a few meters from the sea.

→ **Travelling to Nantes** from Paris, either from Paris CDG Airport or from the city centre, is easy and direct with fast trains (TGV).

→ **Travelling to Saint-Nazaire** from Paris is easy and direct with fast trains (TGV - 2h30 from Paris) and the region is linked with Nantes Atlantique Airport located in Nantes (40 min from Saint-Nazaire city center).



More information :
www.nantes-saintnazaire.fr

/ 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.

For students who come from a partner university with Polytech Nantes, please contact **incoming.mobility@polytech.univ-nantes.fr** before next April for possibilities of cheap accommodation in **CROUS Residencies** (approximately 260€ per month).

Polytech Nantes is a founding member of the Polytech group, a network of 13 graduate engineering schools, and the graduate engineering of University of Nantes.

Polytech Nantes, 2 campuses for 1 school

The Chantrerie Campus is located at the heart of « Atlanpole », Nantes technology park. Its modern and well-equipped buildings provide an ideal learning environment of engineering students.

Site Chantrerie

Rue Christian Pauc
CS 50609
44306 NANTES Cedex 3
FRANCE

The Gavy Campus is situated in Saint-Nazaire, amongst the aeronautics and shipbuilding industries, benefiting from the exceptional Guérande Peninsula atmosphere and a number of seaside resorts.

Site Gavy

Gavy Océanis
CS 70152
44603 SAINT-NAZAIRE Cedex
FRANCE



Join Polytech Nantes on :

