

# Sustainable Printed and Integrated Electronics program

Master in Industrial engineering



Duration  
1 year



Component  
Grenoble INP -  
Pagora (Ecole  
internationale  
du papier, de la  
communication  
imprimée et des  
biomatériaux),  
UGA, Grenoble  
INP - Génie  
industriel  
(Conception  
de produits ou  
de services,  
gestion de  
production et  
logistique), UGA

## Presentation

The Master's program in Sustainable Printed and Integrated Electronics (Master's Degree, One Year Graduate Program) has been developed to train specialists in the field of printed electronics and equip them with the skills needed to design, develop and add new functionalities to 2D and 3D objects using innovative printing processes.

The program, which combines materials science, electronics and sustainable innovation, will enable graduates to meet the challenges involved in 2D/3D object functionalization and the eco-design of electronic devices. The skills they acquire will allow connected objects to be manufactured at a lower cost and using fewer resources.

This Master's program is open to students who have completed at least 4 years of science-based higher education or 1 year of graduate studies (the equivalent of 240 ECTS

credits) in France or abroad. It forms part of the Grenoble INP – Génie Industriel's Industrial Engineering Master's program and leads to an official qualification.

Students can obtain scholarships, either in France or in their home country, to cover all or part of the enrolment fee as well as the costs linked to the course. This program also includes a final-year internship lasting 5-6 months, either in a company or in a laboratory, which pays around €600 a month if it takes place in France.

### *Training in collaboration with:*

Grenoble INP – Génie Industriel; Laboratory of Process Engineering for Biorefinery, Biobased Materials and Functional Printing (LGP2); Tec21 Laboratory of Excellence; Carnot Polynat Institute; Université Grenoble Alpes IDEX (Excellence Initiative)

**International education** : Internationally-oriented programmes

## International dimension

With courses taught in English, the Masters in Sustainable Printed and Integrated Electronics is aimed mainly at English-speaking students with a variety of backgrounds and profiles.

The program is therefore a great opportunity to meet people from different cultures and to develop the capacity to work and manage projects in an international context.

## Admission

### Access conditions

This Master's program is available to students who have completed at least four years of higher scientific education or 1 year of graduate studies (the equivalent of 240 ECTS credits) in France or abroad. It is a degree course of the Master in Materials Science and Engineering.

### Candidature / Application

See Grenoble INP – Pagora website (<https://pagora.grenoble-inp.fr/en/education/master-sie-program-sustainable-printed-electronics#page-admission>) for more information on application timeline and procedures.

### Fees

EU citizens: €243 per year

Non-EU nationals: €3879 per year

### Prerequisites

All candidates must provide a certificate of English language level:

Mandatory minimum level B1, level B2 strongly recommended, European standards.

Education : at least 4 years of higher scientific education or 1 year of graduate studies in materials science, electronics, chemistry, printing techniques / processes, sustainability or equivalent subjects.

## Useful info

### Contacts

Program director

Nadège Reverdy-Bruas

✉ [nadege.reverdy@pagora.grenoble-inp.fr](mailto:nadege.reverdy@pagora.grenoble-inp.fr);

Administrative contact

✉ [pagora.contact-master\\_e-peps@grenoble-inp.fr](mailto:pagora.contact-master_e-peps@grenoble-inp.fr);

### Course location(s) - City

📍 Grenoble

### Campus

🏠 Grenoble - University campus

### Know more

Find out more on the Grenoble INP - Pagora website

🔗 <https://pagora.grenoble-inp.fr/en/education/master-sustainable-printed-and-integrated-electronics#page-presentation>

# Program

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## Organization

The program is therefore a great opportunity to meet people from different cultures and to develop the capacity to work and manage projects in an international context.

Full program at the following address: <https://pagora.grenoble-inp.fr/en/education/master-sie-program-sustainable-printed-electronics#page-programme>

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## Specifics of the program

The purpose of this Master's program is to train specialists to harness various functional printing processes and technologies relating to printed electronics, enabling them develop and add functionalities to 2D and 3D objects and connected components. Thanks to additive manufacturing technologies, including printing processes, and in keeping with an eco-design and sustainable development approach, 2D/3D objects and components can now be equipped with new functionalities or become connected on demand.

By the time they have completed the Masters program, our future specialists will have acquired all the necessary skills in the following areas:

- Materials science, inks, printing techniques and surface application processes.
- Electronics, optoelectronics, energy management, the use of sensors and real-world applications of connected objects.
- Innovation management, eco-design and life cycle assessment.

This Master's program is the only one of its kind in France. It covers the following topics:

- Electronics and optoelectronics (design, functionalities, use of sensors, energy management, connected objects).
- Additive manufacturing, printing processes and functional inks.
- Materials (biobased, polymeric, etc.) for printed electronics.
- Eco-design and assessing sustainability (life cycle analysis, environmental impact, sustainable innovation).