ADMINISTRATIVE STAFF

Faculty of science and Technology
Electronics, electrical energy, automatic Department

- University of Lille - Campus cité scientifique
- Pedagogical secretariat: Lisa POUPART
  lisa.poupart@univ-lille.fr
  +33 (0)3 20 33 60 40

For more information:
https://master-electronique.univ-lille.fr/master-nanosciences-et-nanotechnologies

CONTACT CONTINUING EDUCATION & WORK-STUDY

fst-fca@univ-lille.fr
Céline DESCHAMPS
Apprenticeship contract
+33 (0)3 62 26 82 94

ADMISSION CONDITIONS

Find all the useful information in the training catalog of the University of Lille: https://www.univ-lille.fr/formations

Master's 1

- Recommended Bachelor's degree in:
- Electronics, Electrical
- Energy, Automation (EEA), Engineering Sciences with EEA profile, or Physics

Capacity of reception: 16 slots

Selection process:

- application + interview
- Application criteria for the jury: A detailed file of the curriculum followed by the candidate allowing to appreciate in particular the objectivesandcompetencesoftheprevioustraining-recommended PREREQUISITES:
- «Electronic components and circuits», «electronic components and circuits», «Semiconductor physics», «Wave theory», «Propagation», «Signal processing», «Fundamentals of electronic theory», «Basics of information theory», «Digital transmissions».

Submit your application on the platform https://ecandidat.univ-lille.fr

Master's 2

Find out more about the different ways of accessing the Master's 2 program by consulting the training catalog of the University of Lille. Submit your application on the platform https://ecandidat.univ-lille.fr

RESPONSABLES DE LA FORMATION

Head of the Master
Davy GAILLOT
davy.gaillot@univ-lille.fr
+33 (0)3 20 43 47 52

Head of the Master 1
Mahmoud ABOU DAHER
mahmoud.abou-daher@univ-lille.fr

Head of the Master 2
Sylvain BOLLAERT
sylvain.bollaert@univ-lille.fr

STUDY ARRANGEMENTS

In order to offer the best success conditions to incoming students, the University of Lille has set up various measures that allow students to start and continue their studies in the best possible way, depending on their situation: students with disabilities, high-level athletes and artists, civic service, students in exile, etc. More information on https://www.univ-lille.fr/etudes/amenagements-des-etudes/

Graduate Programme Lille

Information and knowledge society

Responsable de la rédaction : Vice-présidence Formation- Coordination : SUAIO - Maquette et réalisation : Service Communication - Impression : Imprimerie Université de Lille - Document non contractuel - Imprimé en décembre 2023

formation accessible en alternance

Master

MASTER 1 / MASTER 2

Mention

Nanosciences and Nanotechnologies

Parcours

ELECTRONIC TECHnologies for smart communcating systems

FACULTÉ DES SCIENCES ET TECHNOLOGIES
Département Électronique, Énergie électrique, Automatique

Université de Lille

Graduate Programme Lille

Information and knowledge society

FRANCE compétences
CERTIFICATION enregistrée au RNCP

PRESENTATION OF THE MASTER'S PROGRAM

The Electronic TECHnologies (ETECH) for Smart Communicating Systems specialization within the Nanosciences and Nanotechnologies (NN) Master's program at the University of Lille is designed to inspire and prepare highly skilled technical and scientific engineers for the exciting world of research and innovation. ETECH graduates are prepared to take on leadership roles in the R&D laboratories of major corporations in the microelectronics sector, as well as in small to medium-sized enterprises (SMEs) and academic research institutions.

Our program places a strong emphasis on technological innovation to address the current and future demands of various high-tech domains, including 5G and 6G telecommunications, IOT, healthcare, sustainable development, energy, transportation, and more. The NN Master's curriculum is specifically tailored to equip students with the scientific and professional skills required to meet these upcoming challenges, with a particular focus on nurturing high-tech startups and fostering international careers. A prime example of the exciting transformations happening in the microelectronics field is the evolution of 5G communication networks. The future of these networks demands the creation of ultra-high-speed wireless communication systems, but that's not all. It also necessitates the diversification of electronic systems, such as the development of autonomous vehicles connected to networks, which will require increased information flow, energy-efficient processing of data using artificial intelligence (both in software and hardware, including neuromorphic circuits), new sensors, actuators, and micro-sources of energy. Our comprehensive two-year program (equivalent to 120 ECTS) is based in one of the largest and most prestigious laboratories at the University of Lille, the Institute of Electronics, Microelectronics, and Nanotechnology (IEMN). With over 50 years of expertise in microwave technology and more than three decades in nanotechnologies, the IEMN provides invaluable support for our students. The institute boasts state-of-the-art facilities, including a 1600m2 clean room and advanced characterization centers, enabling hands-on research and learning experiences. The core focus areas of our NN Master's program draw inspiration from the advanced research initiatives of IEMN, encompassing Smart Energy, IOT Make Sense, Telecom UHD, and Neuromorphic Technologies. Given the international scope of research and development in these areas, mastering the English language is of paramount importance. Therefore, our courses are conducted in English to ensure our students are well-prepared for the global stage.

Join us at the University of Lille and embark on an educational journey that will empower you to shape the future of electronic technologies and smart systems, positioning you at the forefront of innovation in the ever-evolving landscape of high technology. Your adventure begins here at the intersection of science, technology, and imagination.

THIS MASTER DEGREE PROGRAMME IS PART OF THE GRADUATE PROGRAMME **«INFORMATION & KNOWLEDGE SOCIETY»**

GRADUATE PROGRAMMES of the University of Lille offer to master students and PhD's a training environment through research-driven approach in an international, stimulating, competitive and innovative context as well as professional networking for successful career planning.

Key figures :

Graduate Programme IKS:

- 10 master tracks in Mathematics, Physics, Nanosciences, Biotechnology, Philosophy and Psychology
- 3 Graduate Schools

Scholarship : The Graduate Programmes offer fellowships (3500 euros) and relocation (3500 euros) grants to attract bright students in their master tracks, as well as outgoing mobility grants (max 3000 euros) to its registered students.

- Fellowship and relocation grant : 1st call (31/03, results 15/04), 2nd call (15/05, results 01/07)

More information: https://international.univ-lille.fr/en/graduate-programmes/information-and-knowledge-society/.

MEL MÉTROPOLE EUROPÉENNE DE LILLE

FRANCE 2030

STRUCTURE OF THE PROGRAM

The master's program is organized in 4 semesters of 30 ECTS.

The first semester shares a common core with the Networks and Telecommunications Master's degree. An important direction of future technologies is the communication of information. The program belongs to the I-SITE ULNE IKS international program and is in English. It is open to international outgoing mobility and scholarships. **The master's degree has a teaching agreement with the Ecole Centrale de Lille and with the Institut Supérieur de l'Electronique et du Numérique (ISEN-JUNIA).** Part of the teaching is provided by the Ecole Centrale de Lille. The program is offered in double degree with the Georgia Institute of Technology (USA)

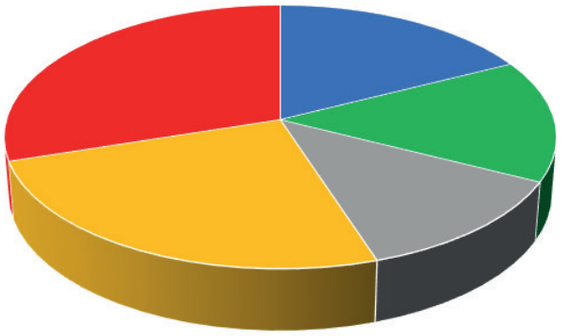
JOB PLACEMENT RATE & FURTHER STUDIES

96% job placement rate (OFIP)
Targeted positions:
Design engineer in connected objects, Engineer in cleanroom processes, wireless communicating sensors, electronic circuits, RF/Microwave, RF/Microwave test, project manager, consulting engineer, Research & Development, researcher etc.

Major industrial groups or SMEs or startups that recruit our expert engineers: Thales, Freescale, STmicroelectronic, NXP, OMMIC, UMS, Alstom, AMD, CEA, MC2, Huawei, SOITEC, EPIGAN, etc. and regional startups (Zymoptic, Vmicro, Wavely, Besttic, Menapic, etc.
Doctoral studies: At IEMN, doctoral studies with industrial partners (CIFRE or other contracts), numerous PhD grants (30 to 40 per year), or other academic laboratories (e.g. CEA, IRCICA-CNRS, IFSTTAR, etc.) or private laboratories (e.g. Thales, STmicroelectronics, MC2, etc.)

TARGETED SKILLS

The Nanosciences and Nanotechnologies specialization is structured in blocks of skills and knowledge defining the core of their expertise in the sector of technologies for electronic systems.



STRENGTHS OF THE PROGRAM

- Rely on the expertise of an pplication-oriented laboratory in partnership with major players in the field of microelectronics and startups in the Hauts-de-France region. Training led by a dynamic teaching team with recognized expertise and an active pedagogy: supervised or independent projects using professional tools, internships in companies, and seminars led by high-level professionals. 25% of the program is done through practical work.
- Accessible with study-work students (1 week in a company and 1 week in the training center) in the form of an apprenticeship contract for M1-M2 or M2 and a professionalization contract for M2