

## Débouchés

Doctorate in an academic laboratory or in partnership with industry

Employment in the R&D and innovation sector, related to nanosciences and nanotechnologies (Nanotechnology Engineer, Quality Control/Assurance Specialist, Product Development Specialist)

Entrepreneur/Startup Founder

Consultant/Advisor

*Specific industries may have varying demands for professionals with expertise in nanoscale science and engineering. Therefore, it's advisable for students to stay updated on industry trends, network with professionals in the field*

## Partenaires industriels et recherche

All research (academic) laboratories of the Sciences of Matter Doctoral School of Toulouse

Rice University (Houston, Texas, US)

Hawai University (US)

University of Florida (US)

Interuniversity Workshop for Micro-nano Electronics and Technology (AIME, Toulouse)

Quantum technologies in Occitanie

## Contact

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Director of studies

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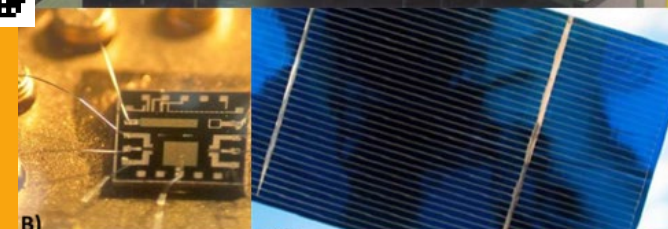
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<https://nanox-toulouse.fr/>

## Nanoscale Science and Engineering

(Nanosciences et nanotechnologies)

International MSc (M2 only)



Offre de formation 2023 - 2024

# Nanoscale Science and Engineering

(Nanosciences et nanotechnologies)

What sets this Master's program apart is its **dual nature**: first, it embraces a highly interdisciplinary approach encompassing **physics, chemistry, materials, and engineering**; second, it emphasizes a work-study format, allowing students to do their **research project** (aka the internship) throughout the year

NanoX is a one year master's degree (MSc2). It is designed to welcome students belonging to the European bachelor-master system who want to do a **multi-disciplinary master's after their MSc1**, but above all to **launch non-French students** who are in a four-years undergraduate / graduate system in a **PhD track**.

## Le parcours

Nanocatalysis

Molecular modeling in Physics and Chemistry and basics of Machine Learning in the physical chemistry lab

Quantum technologies

Characterization of [nano]materials

Clean room sessions (fabrication of solar cells, NMOS technology, Chemical sensors, 2D materials)

On-demand refresher educational courses

1 university, 2 engineering schools, 5 MSc degrees



3 technical facilities for research and education



1 doctoral school



11 laboratories



## Spécificité de la formation

**Motto: develop in-depth knowledge and solid know-how through practice**

Foster learn-by-doing and training-by-research teaching

Promote pluridisciplinarity, both experimentally and theoretically

Prepare master students for doctoral studies

Train high-level students, both French and from abroad, with a professional project linked to R&D&I and the development of innovative technological solutions at the interface between physics/chemistry/materials/modeling

## Compétences visées

Render students skilled in the design / modeling / characterization / fabrication / addressing of innovative nano-objects

Development of innovative solutions using nanotechnologies in the field of engineering, functional materials or biotechnologies

Analysis of a multidisciplinary problem in a broad field of basic sciences: physics, chemistry, biology, instrumentation, biology, instrumentation, and related modeling science

Implementation of techniques for developing, characterizing, manipulating or integrating nanostructures, nanomaterials, nano-systems, nano-biotechnologies

Development of experimental, instrumentation or modeling protocols in the field of nanoscience and nanotechnologies

Communicate in English for training, developing new scientific or technological solutions or knowledge transfer purposes, orally and in writing

## La formation en chiffres

50 talented French and international students apply every year

Chloropleth maps of the home countries of the applicants:

