nano X
NANOSCALE SCIENCE AND ENGINEERING

INTERNATIONAL MASTER OF NANOSCALE SCIENCE AND ENGINEERING

TOULOUSE, FRANCE

MSc2 level in the European bachelor's master's doctorate system

A UNIQUE INTERDISCIPLINARY EDUCATIONAL PROGRAM ACCREDITED BOTH BY A FLAGSHIP SCIENTIFIC UNIVERSITY AND TWO LEADING ENGINEERING SCHOOLS

Université de Toulouse · INSA TOULOUSE · TOULOUSE INP Ensiacet · cnrs

TAILORED CURRICULUM

- 1 year full-time **in English**
- Maximum 18 students per class
- ✓ 4 NanoX hands-on **intensive courses**: ½ tutorials – ½ practical works
- ✓ 4 **clean room sessions** at AIME
- ✓ Possibility to exchange with elective courses in our partner masters

TEACHING TO AND THROUGH RESEARCH

- **In-lab annualized research project**: almost 40 internship offers in our partner labs in 2025
- Cutting edge facilities : practical works are **in research labs** or in highly equipped platforms
- Masterclass project (advanced NMR and mass spectrometry, quantum computing…)

GRANTS

12 grants are available for talented foreign students

(part of the travel expenses, tuition fees and an all-inclusive stipend of up to 800€ per month)

JOB OPENING

Although this training is primarily a "**PhD track**", the possibilities of insertion into the **job market** after graduation are expanding rapidly

CANDIDATE'S PROFILE

French, European and international students who have completed **4 years of higher education** in one of the fields of NanoX: **physics, chemistry or material science**

OBJECTIVES OF THIS MSc DEGREE

- Favor interdisciplinarity
- Propose research-oriented studies in Nanoscale Science and Engineering
- Render students skilled in the design, modeling, characterization, fabrication and addressing of innovative nano-objects with tailored properties
- Offer an immersion in a research laboratory throughout the year

APPLICATION (more info on nanox-toulouse.fr/apply/)

- **Early application till December 2025** on **campusfrance.org** for *Etudes en France* procedure
- **From January to March 2026 (Deadline, April 1)**: directly contact us by email, on the ***ecandidat*** **University Website** for students apart from *Etudes en France* procedure
- Do not hesitate to contact us (graduate-school@nanox-toulouse.fr)

INTENSIVE COURSES

Quantum Technologies

Develop a practical understanding of how quantum states of atoms, electrons and photons can be controlled in experiments and the possibilities that they offer for future quantum technology applications.

Characterization of Nanomaterials

Acquire knowledge and expertise concerning the methods to elaborate and characterize 2D nanostructured layers.

Computational Modeling

Assimilate the theoretical basis of the quantum chemical methods and learn how they can be applied to anyone's research project.

Nanocatalysis

Develop skills on catalyst preparation, reaction kinetics monitoring, interpretation of characterization data.

CLEAN ROOM SESSIONS

Chemical sensors

Making and using a gas sensor: synthesis and integration of nano-object prepared by chemical routes

Solar Cell

Solar Cell fabrication and electrical characterization.

Graphene and beyond

Synthesis, e-beam lithography and electronic characterization of a graphene device.

Nanocrystals Inside

Manufacture electronic device with nMOS technologies and measure the electronic properties (Diodes, Transistors, logic circuits, …).

MORE INFO ON OUR WEBSITE

✉ graduate-school@nanox-toulouse.fr

MSc2 PARTNER DEGREES

- Green Chemistry
- Fundamental physics
- Luchon Tutorials in Theoretical Chemistry Winterschool

Download our syllabus