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 LEADING SCIENTIFIC UNIVERSITY AND TWO ENGINEERING SCHOOLS

UNIVERSITÉ TOULOUSE III PAUL SABATIER · INSA TOULOUSE · INP ENSIACET

TAILORED CURRICULUM

- 1 year full-time **in English**
- Only 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 TROUGH RESEARCH

- **In-lab annualized research project**: more than 30 internship offers in our partner labs in 2021
- Masterclass project
  - Cutting edge facilities : practical works are **in research labs** or in highly equipped platforms

GRANTS

12 grants are available for talented foreign students (travel expenses, tuition fees and 10-months scholarship)

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, the modeling, the characterization, the fabrication, and the addressing of innovative nano-objects with tailored properties
- Offer an immersion in a research laboratory throughout the year

INVESTIR L'AVENIR · cnrs · Université Fédérale Toulouse Midi-Pyrénées

Want to apply ? Contact us until beginning of May
education@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

Microfluidics

Microfluidic chip fabrication (PDMS) (Hydrodynamics, Bacteria culture in single drop,…)

Micro-supercapacitor

Fabrication of a micro supercapacitor based on nanoporous Carbon

Nanocrystals Inside

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

MORE INFOS ON OUR WEBSITE

✉ education@nanox-toulouse.fr

MSc2 PARTNERS

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

Download our syllabus