Master in Nanosciences and nanotechnologies

The programme offers the following course(s) :

- Research intensive track 1st year
- Nanochemistry
- Nanophysics
- Nanobiosciences
- Nanomedicine
- Micro and nanostructure engineering

Presentation

Course co-accredited by the Université Grenoble Alpes and the National Polytechnic Institute of Grenoble

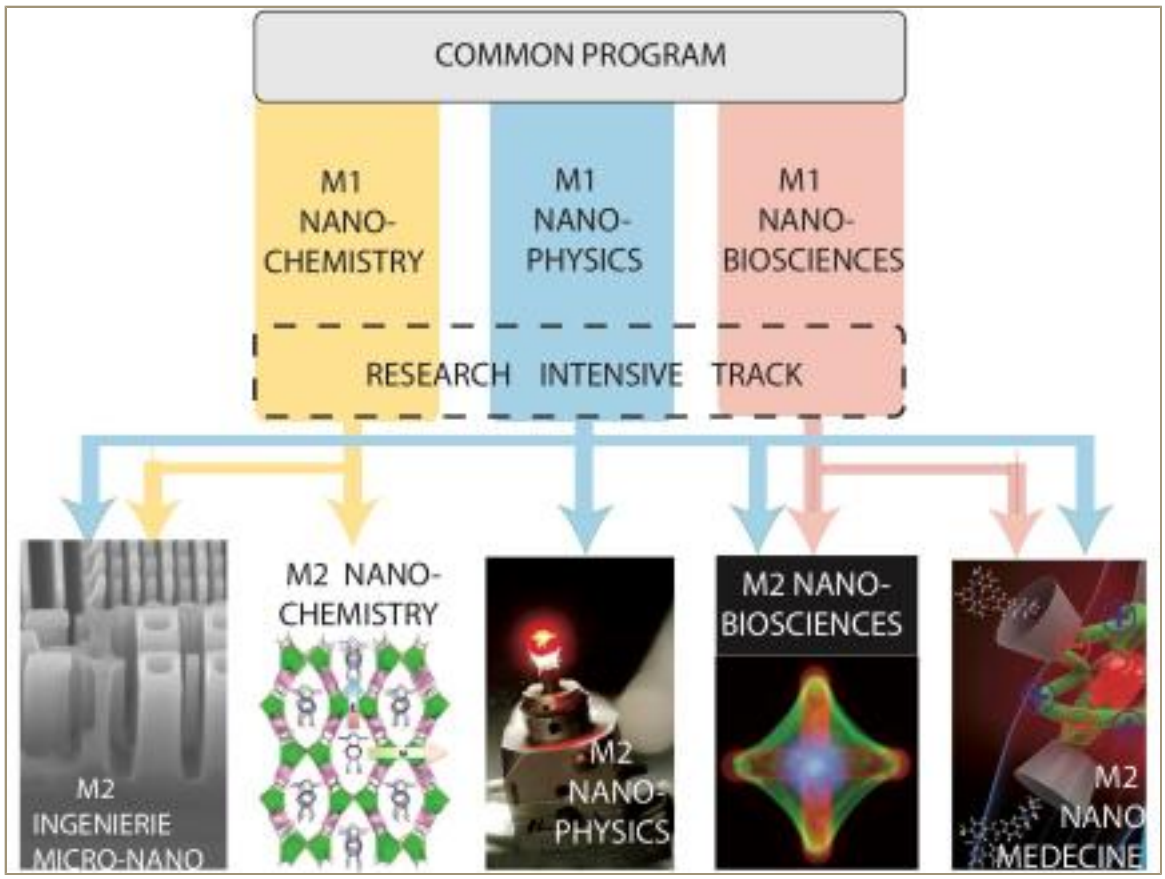
See also the website https://master-nanosciences.univ-grenoble-alpes.fr

Nanosciences study phenomena and manipulation of matter on the atomic and molecular scale (nanometers: i.e., one billionth of a meter). Important properties of matter such as the electrical, optical and mechanical properties are determined by the way molecules and atoms assemble into larger structures on the nanoscale.

Nanotechnology is the application of this science in new nanomaterials and nano - concepts for new components, systems and products. Therefore, nanotechnology will provide us with the ability to design custom-made materials with any property we require.

These newborn scientific disciplines are situated at the interface of physics, chemistry, material science, micro electronics, biochemistry and biotechnology. The master Nanoscience & Nanotechnology of Grenoble is a 2-years integrated program with a strong research backbone and an important international outreach, providing a top quality multidisciplinaty education in nanoscience and nanotechnology. The key assets of master N^2 are:

- **a multi-disciplinary approach** with five tracks in nanophysics, nano- chemistry, nano-biosciences, nano-medecine, and micro and nano-engineering
- a broad **international exposure** sustained by an Erasmus Mundus Program and several other international partnerships
- an **experimental training** of exceptional quality in the many nano-facilities of the Grenoble area
- an **excellent immersion** in the world-class research environment of the Grenoble area, with the Nanosciences Conferences courses, the research training program, and the extended master thesis (see RIT track).



The first year has 3 majors in nano-physics, nano-chemistry and nano-biosciences, tailored to receive students from different background. It prepares them to one of the 5 tracks of the 2nd year.

The 1st year **Research Intensive Track** (RIT**)** is dedicated to Batchelors of Science totalizing 4 years of higher education (equivalent to 240 european credits), or student having validated a 1st year of a master (M1) in another field and who want to change their orientation. They start their master thesis in the first year and pursue their second year in one of the M2 track.

All courses (except the IMN track) are **taught in english** and welcome a majority of international students. The master N^2 of UGA is part of a European Mundus Master consortium, the EMM Nano, open to european and non-european students. Student admitted at the EMM Nano spend their 1st year at KU Leuven, Belgium, and their 2nd year at UGA in either the nano-physics, nano-chemistry or nano-biosciences track. They obtain a joint-degree of the KU Leuven and UGA. Instructions to apply for the EMM Nano can be found here. The master N^2 has also partnerships and double-degree programs with the Tomsk Polytechnic University (TPU), and the Tsukuba University, Japan.

The IMN track is available in "alternance" for professional students who work in a company. This track is taught in french.

Objectives

The programme for the Master in Nanosciences and Nanotechnologies provides students with the background needed for continuing to doctoral level in fundamental or applied sciences. It also prepares them for high-level positions in the nanotechnologies industry.

The acquisition of in-depth knowledge in physics, chemistry and biology is fostered by an exceptional research environment: the Grenoble scientific community, comprising the laboratories of the UGA, Grenoble INP, CEA and CNRS, as well as major research centres such as the Synchotron (ESRF) and the Institut Laue-Langevin (ILL).

Registration and scholarships

National diploma equivalent to a bachelor degree (licence) in a field compatible with that of the Master.
Qualification or achievement recognised as equivalent by the admissions board of the Université Grenoble Alpes

Public continuing education:
You are in charge of continuing education:
if you resume your studies after 2 years of interruption of studies,
or if you followed a formation under the regime formation continues one of the 2 preceding years
or if you are an employee, job seeker, self-employed.
If you do not have the diploma required to integrate the training, you can undertake a validation of personal and professional achievements (VAPP).

Further studies

Continuation of study possible in PhD.

Practicals informations :

- **School :** Grenoble INP, UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)
- **level :** Baccalaureate +5
- **Duration :** 2 years
- **Credits :** 120
- **Course type :** Initial and Continuing Education
- **Location(s) :** Grenoble - University campus
- **Contacts :**

Programme director

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Programme administration

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Application
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