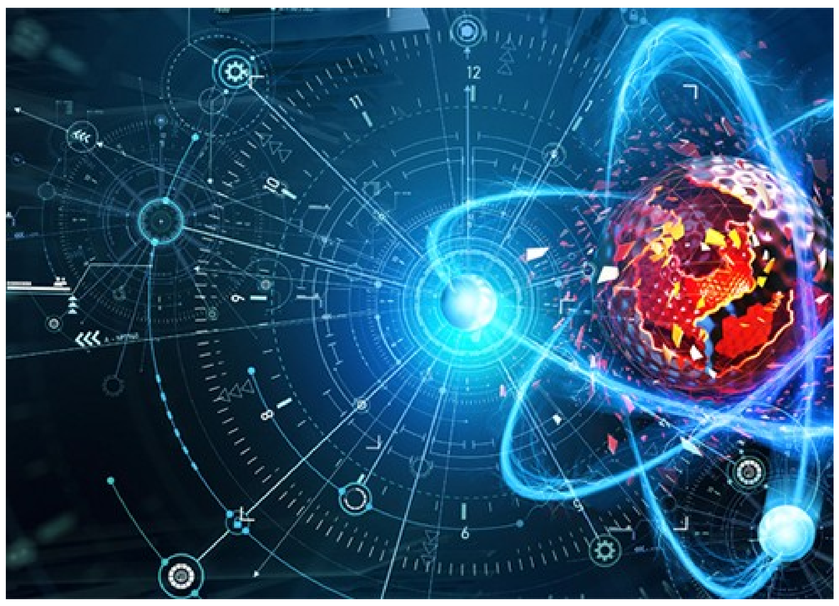
université PARIS-SACLAY | GRADUATE SCHOOL Physique

M1 General Physics

This programme provides students with the skills, knowledge and research capabilities essential for careers in the major areas of modern, fundamental and applied physics. These include particle, nuclear and atomic physics, astrophysics, astroparticles and cosmology, condensed matter, statistical physics and nanosciences, optics, plasma sciences and lasers. Both experimental and theoretical aspects are covered. It also offers students the opportunity to discover and integrate the vibrant, world-class research environment of Université Paris-Saclay, in particular the many laboratories of the Graduate School of Physics.

This programme serves as a strong foundation for the pursuit of a doctoral thesis in physics. More generally, it is designed to meet the national and international demand for highly qualified graduates prepared to meet the challenges posed by future developments in this vast field.



PROGRAMME

Semester 1

- Majors (choose 2 or 3)
  - Nuclei
  - Universe
  - Particles
  - Atoms, Molecules and Optics
  - Quantum Solid State Physics
- Minors (choose 2 or 3)
  - Laser Physics
  - Non-Linear Optics
  - Plasma Physics & Applications
  - Soft Matter
- Electives (choose 2 or 3)
  - Sensors, Measurements, and Signal processing
  - Mathematical and Statistical Methods: from big data to relevant information
- Language course
- Experimental physics

Semester 2

- Majors (choose 2 or 3)
  - Statistical and Quantum Field Theory
- Minors (choose 2 or 3)
  - Astrophysics and Astroparticles
  - General Relativity & Cosmology
  - Macroscopic Quantum Phenomena
  - Nuclear and Particle physics
- Electives (choose 2 or 3)
  - Advanced Mathematics for Physicists
  - Nanomaterials and Electronic Applications
  - Quantum Matter
  - Research Project
- INTERNSHIP

LEADS TO

- All second year Master's programmes (M2) offered as part of the Master's degree in Physics at Université Paris-Saclay or other universities

PREREQUISITES

- Bachelor’s degree (180 ECTS, or equivalent) primarily in Physics, but also in Mathematics or Engineering, provided you have a strong knowledge of fundamental physics (including quantum mechanics, statistical physics, special relativity, electrodynamics) and mathematical tools for physics

PARTNERS

université PARIS-SACLAY

INSTITUT POLYTECHNIQUE DE PARIS

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