

Master of Science in Physics: Physics for Optics and Nanosciences

École Polytechnique :
"The Best Graduate Institute of Science and
Technology in France since 1794."

- 2,800 Students (1,850 graduate students)
- 28% of International students
- 900 Faculty Members
- 19% International Faculty Members
- 65 Nationalities

A long tradition of scientific excellence: Ampère-Cauchy-Coriolis-Fourier-Fresnel-Lagrange-Monge-Poincaré-Poisson, and two Nobel Prizes and two Fields Medals,....;

A multi-disciplinary research center with 22 laboratories

A strategic location on the Paris-Saclay Campus that gathers 10 % of the French research activity in Science and Technology;

A member of ParisTech, a cluster of excellence of twelve of the most prestigious Graduate Institutes of Science and Technology in Paris;

A member of IDEA League, an International network in partnership with Imperial College, TU Delft, ETH Zurich, RWTH Aachen & ParisTech.

- Two-year program taught in English
- Master's Program based on the scientific expertise of internationally renowned research laboratories (more than 350 researchers in Physics on the campus)
- An optimal path to a Ph.D. or position in a Research and Development Center in a company

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Création:  by-media

Objectives: The aim of this program is to provide students with an up-to-date understanding of the fundamental concepts and methods in Optics and Nanosciences and to give them the best preparation for a Ph.D. or a position in a Research & Development Center in a company.

Courses: A Two-Year Program (120 ECTS)

First year (M1/60 ECTS): Fundamental Concepts in Optics and Nanosciences

- ▶ **Core courses:** Statistical Physics/Electrodynamics/Quantum Physics/Atomic & Molecular Physics/Quantum Optics/Lasers
- ▶ **Electives:** Nanophotonics/Materials/Nanomaterials and Electronics/Optoelectronics/Semiconductor & Laser Diodes/Wave Optics/Lasers/Nonlinear Optics/Guided and Coupled Waves/Biology/Microfluidics
- ▶ Research Internship in a laboratory at Ecole Polytechnique, at partner academic institutions or in a R&D Center in a company
- ▶ **Schedule:** Sept.–Dec. & Jan.–March: courses. April–July: Internship.

Second year (M2/60 ECTS): A Specialization in Optics or in Nanosciences

- ▶ **Nanosciences:** Majors in Nanophysics/Nanodevices/Nanotechnologies/Materials Science
- ▶ **Optics:** Majors in Quantum Optics/Lasers & Matter/Plasmas/Optoelectronics/Nanophotonics/Optical Devices and Systems/Imaging Science and Analysis
- ▶ **Schedule:** Sept.–Feb.: courses; March–July: Master's thesis.

Language of Education:

- ▶ First year (M1): English
- ▶ Second year (M2): English. More specializations available in French.

Prerequisites:

- ▶ Highly qualified students with a Bachelor's degree or equivalent in Physics
- ▶ English (TOEFL 570 –PBT)
- ▶ Direct admission to Year 2 for suitably qualified students

More information and contacts:

<http://www.master-optics-nanosciences.fr>

Academic Coordinator:
francois.hache@polytechnique.edu

International Coordinator:
delphine.marcillac@polytechnique.edu

Basic information about Ecole Polytechnique Master's Programs:

Application deadline: 3 sessions: January 15th-March 1th -May 1th

Registration fees: 340 € ; Tuition fees–Year 1: 6,600€/ Year 2: 4,400 €

Scholarships awarded to outstanding students

