Master of Science in
PHYSICS AND APPLIED PHYSICS

Physics - 2-year program - 120 ECTS

Master’s thesis
30 ECTS

Optional courses
38 ECTS

Specialization project
30 ECTS

Projects
22 ECTS

Applied Physics - 2-year program - 120 ECTS

Master’s thesis
30 ECTS

Optional courses
38 ECTS

Industrial internship
30 ECTS

Projects
22 ECTS

Optional courses

Students following the master in Physics choose:
• at least 20 credits in list A

Students following the master in applied Physics choose:
• at least 19 ECTS in list B - Engineering
• at most 19 credits in list C - Physics

Instead of the internship or the specialization work, one of the minors listed in the EPFL offer (information on page: sac.epfl.ch/mineurs) may be chosen (30 ECTS), e.g.:
• Biomedical Technologies
• Energy
• Management, Technology and Entrepreneurship
• Space Technologies

School of Basic Sciences
go.epfl.ch/master-physics
Contact: daniele.mari@epfl.ch

Optional courses

Astrophysics III: Stellar and galactic dynamics
Astrophysics IV: Observational cosmology
Atoms and radiation
Biophysics: physics of biological systems
Cold atoms and quantum simulations
Computer simulation of physical systems
Electron microscopy: advanced methods
Experimental methods in physics
Frontiers in nanosciences
Fundamentals of biomedical imaging
Introduction à la physique des astroparticules
Introduction to particle accelerators
Lasers : theory and modern applications
Methodologies des plans d'expériences
Physics of nuclear reactors
Nonlinear dynamics, chaos and complex systems
Nuclear fusion and plasma physics
Optique III
Particle detection
Particle physics I
Particle physics II
Physics of atoms, nuclei and elementary particles
Physics of materials
Physics of photonic semiconductor devices
Physics of novel electronic materials
Plasma Physics II
Plasma Physics III
Quantum electrodynamics and quantum optics
Quantum field theory I
Quantum field theory II
Quantum optics and quantum information
Quantum physics III
Quantum physics IV
Radiation biology, protection and applications
Radiation detection
Reactor Technology
Relativity and cosmology I
Relativity and cosmology II
Selected topics in nuclear and particle physics
Semiconductor physics and fundamentals of electronic devices
Solid State Physics III
Solid State Physics IV
Statistical physics III
Statistical physics IV
Statistical physics of biomacromolecules

Courses in other programmes according to list of recommended courses max. 18