

Superconductivity, strongly correlated systems, functional materials

1st semester

2nd semester

1st year

Relativistic Quantum Mechanics
Condensed Matter Physics
Physics Laboratory I
Computing methods for physics (C-Inf)

Physics Lab II
Solid State Physics
English Language
Many Body Physics (A)

One among:
Atomistic Simulations (C-inf);
Stat. mech. and Critical Phenom. (C);
Nonlinear and Quantum Optics (C),
Machine learning (C-inf)

One among:
Mathematical Physics (C-mat);
Photonics (C); Physics of liquids (C);
Deep Learning and applied AI (C-inf);
another non-FIS exam of group C

2nd year

Superconductivity and Superfluidity (B)

One between:
Surface Physics and Nanostructures (B);
Spectr. methods and nanophotonics (B)

One among:
Surface Physics and Nanostructures (C);
Spectr. methods and nanophotonics (C);
Quantum Inform. and Computation (C);
Solid State Sensors (elective free choice);
another non-FIS exam

Internship

Thesis project

Surface Physics and Nanostructures

1st semester

2nd semester

1st year

Relativistic Quantum Mechanics
Condensed Matter Physics
Physics Laboratory I
Computing methods for physics (C-Inf)

One among:
Atomistic Simulations (C-inf);
Stat. mech. and Critical Phenom. (C);
Nonlinear and Quantum Optics (C),
Machine learning (C-inf)

Physics Lab II
Solid State Physics
English Language
Many Body Physics (A)

One among:
Mathematical Physics (C-mat);
Photonics (C); Physics of liquids (C);
another non-FIS exam of group C

2nd year

Surface Physics and Nanostructures (B)
Spectr. methods and nanophotonics (B)

One among:
Superconductivity and Superfluidity (C);
Quantum Inform. and Computation (C);
Solid State Sensors (elective free choice);
another non-FIS exam

Internship

Thesis project

Photonics and Quantum Technologies

1st semester

2nd semester

1st year

Relativistic Quantum Mechanics
Condensed Matter Physics
Physics Laboratory I
Nonlinear and Quantum Optics (B)
Computing methods for physics (C-Inf)

Physics Lab II
Solid State Physics
English Language
Many Body Physics (A)
Photonics (C)

in addition

One among:
Nonlinear waves and solitons (1st yr, 2nd sem);
Surface Physics and Nanostructures (B) (2nd yr, 1st sem);
Spectr. methods and nanophotonics (B) (2nd yr, 1st sem);
Solid State Sensors (elective free-choice)
One elective free-choice non-FIS

2nd year

Quantum Inform. and Computation (C)

Thesis project

Disordered systems: liquid, glassy, and soft matter

1st semester

2nd semester

1st year

Relativistic Quantum Mechanics
Condensed Matter Physics
Physics Laboratory I
Soft and Biological Matter (B)
Stat. Mech. and Critical Phenom. (C)

Physics Lab II
Solid State Physics
English Language
Many Body Physics (A)
Physics of Liquids (B)
Biophysics (C)
One between:
Deep Learning and applied AI (C-inf)
another non-FIS exam of group C

2nd year

Atomistic Simulations (free elective choice)
One between:
Stat. Mech. of Disordered Systems (free
elective choice);
Introduz. Teoria dei Processi Stocastici ed
Applicazioni (free elective choice)
Internship

Thesis project

Complexity

1st semester

2nd semester

1st year

Relativistic Quantum Mechanics
Condensed Matter Physics
Physics Laboratory I
Machine learning (C-inf)
Stat. Mech. and Critical Phenom. (C)

Physics Lab II
Solid State Physics
English Language
Meccanica Statistica del Non Equilibrio (free
elective choice)
Deep Learning and applied AI (C-inf)

2nd year

Physics of Complex Systems
Superconductivity and Superfluidity (B)
Introduz. Teoria dei Processi Stocastici ed
Applicazioni (free elective choice)
Internship

Thesis project