

Studies Plan

EDPY - Physics 2023-24

Core courses

Courses	Language Code	Section	Teacher	Exam	Credit
Advanced biomedical imaging methods and instrumentation (Next time: Fall 2023)					
E	PHYS-719	EDPY	Invited lecturers Lê Mishkovsky	Term paper	4
Advanced concepts in particle accelerators (Next time: Spring)					
E	PHYS-751	EDPY	Herr Ischebeck Pieloni	Oral presentation	4
Advanced Quantum Field Theory (Next time: Fall 2023)					
E	PHYS-702	EDPY	Bellazzini	Multiple	4
Advanced Topics in Quantum Sciences and Technologies (Next time: Fall 2024)					
E	PHYS-744	EDPY	Brantut Chipaux Hempel Holmes Manucharyan	Oral presentation	4
Astrophysics V : The variable Universe (Next time: Fall 2024)					
E	PHYS-643	EDPY	Anderson	Oral	3
Attosecond radiation sources					
E	PHYS-761	EDPY	Carbone Invited professor(s) Puppin	Oral	4
Axiomatic Quantum Field Theory (Next time: Fall)					
E	PHYS-757	EDPY	Bossoney	Oral	1
CIBM translational MR neuroimaging & spectroscopy (Next time: Spring)					
E	PHYS-760	EDPY	Cudalbu Invited lecturers Lanz Wenz Xin Zerbi	Term paper	3
Conformal Field theory and Gravity (Next time: Fall)					
E	PHYS-739	EDPY	Guica Mathys Papadodimas Trevisani	Oral	4
Control and Operation of Tokamaks (Next time: Spring 25 (Block course))					
E	PHYS-734	EDPY	Felici Merle Pau Reimerdes	Oral	2
Dynamics of astrophysical fluids and plasmas (Next time: Fall)					
E	PHYS-753	EDPY	Schober	Oral	4
Electron Matter Interactions in Transmission Electron Microscopy (Next time: Spring 2024)					
E	PHYS-637	EDPY	Alexander Hébert La Grange	Oral presentation	2

Field Theory in Condensed Matter Physics*(Next time: Fall 2024)*

E	PHYS-639	EDPY	Mudry	Term paper	4
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Fundamentals of superresolution optical microscopy and Scanning Probe Microscopy*(Next time: Spring)*

E	PHYS-631	EDPY	Sekatski	Multiple	2
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Fusion and industrial plasma technologies*(Next time: Spring 2025)*

E	PHYS-632	EDPY	Alberti Decker Hogge Howling Hursin Martin Sedlák Siravo	Oral	4
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Gauge Theories and the Standard Model*(Next time: Fall)*

E	PHYS-741	EDPY	Cohen	Multiple	4
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General aspects of the electronic structure of crystals*(Next time: Spring 2024)*

E	PHYS-636	EDPY	Yevtushynsky	Oral	2
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Insights on magnetic and semiconducting nanostructures*(Next time: Fall 24 (Block course))*

E	PHYS-646	EDPY	Butté Rusponi	Oral presentation	2
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Introduction to Frustrated Magnetism*(Next time: Spring 2026)*

E	PHYS-726	EDPY	Mila	Oral	2
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Introduction to Metalorganic Vapour Phase Epitaxy of III-V semiconductors*(Next time: Spring)*

E	PHYS-747	EDPY	Caroff-Gaonac'h Dwir Grandjean Moselund Rudra	Oral	1
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Magnetic confinement*(Next time: Fall 2024)*

E	PHYS-731	EDPY	Fasoli Graves Loizu Cisquella Merle Ricci	Oral	4
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Neutron and X-ray Scattering of Quantum Materials*(Next time: Fall)*

E	PHYS-640	EDPY	Fogh Rønnow Schmitt	Oral	4
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Parallel programming*(Next time: Fall (Block course))*

E	PHYS-743	EDPY	Lanti Richart	Oral presentation	3
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Physics of random and disordered systems*(Next time: Postponed to Fall 2024)*

E	PHYS-645	EDPY	Müller	Oral	3
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Plasma Diagnostics in Basic Plasma Physics Devices and Tokamaks: from Principles to Practice*(Next time: Spring 2024 (Block course))*

E	PHYS-732	EDPY	Furno Labit Reimerdes	Written	2
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Plasma instabilities*(Next time: Fall 2023)*

E	PHYS-736	EDPY	Brunner Graves	Multiple	4
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Quantum Computing*(Next time: Fall)*

E	PHYS-641	EDPY	Savona	Oral	4
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Some aspects of topology in condensed matter physics

(Next time: Fall 2023)

E	PHYS-638	EDPY	Mudry	Term paper	4
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Spin Dynamics

(Next time: Fall)

E	PHYS-745	EDPY	Ansermet Invited lecturers	Oral presentation	4
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Statistical physics for optimization & learning

(Next time: Spring 2025)

E	PHYS-642	EDPY	Krzakala Loureiro Saglietti Zdeborová	During the semester	4
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Other doctoral courses (EDOC)

Courses	Language Code	Section	Teacher	Exam	Credit
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Lecture series on scientific machine learning

(Next time: Fall 2024)

E	PHYS-754	EDPY	Carleo Ceriotti De Los Rios Mathis Schwaller Wyart Zdeborová	Oral presentation	2
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Lectures on twisted bilayer graphene

(Next time: Spring 2024)

E	PHYS-756	EDPY	Kriuchkov	Oral presentation	2
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Many-Body Approaches to Quantum Fluids

(Next time: Fall 2023)

E	PHYS-619	EDPY	Invited lecturers	Oral presentation	1
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Master courses

Courses	Language Code	Section	Teacher	Exam	Credit
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Biophysics : physics of biological systems

E	PHYS-302	PH	Rahi	During the semester	4
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Quantum optics and quantum information

E	PHYS-454	PH	Brantut	Written	6
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Statistical physics of biomacromolecules

E	PHYS-441	PH	De Los Rios	Oral	4
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