Studies Plan

EDPO - Photonics 2023-24

Core courses

Courses				Exam	Credit
Language	Code	Section	Teacher		
3D Printing with light *(Next time: Fall 2025)*					
E	MICRO-722	EDPO	Moser Psaltis	Oral	1
Advanced electromagnetics *(Postponed)*					
E	EE-624	EDPO	Fleury	During the semester	3
Advanced Photonics *(On Neuchâtel Microcity campus from June 17 to 21, 2024)*					
E	MICRO-725	EDPO	Altug Bellouard Brès Fleury Invited lecturers Psaltis	Written	2
Integrated Nonlinear Photonics					
E	PHYS-700	EDPO	Galland Volet	Oral presentation	3
Introduction to wave scattering *(Course based on blackboard-style lectures and course notes written by the instructor. A basic knowledge of wave phenomena and linear algebra is required. Next time 26-30.08.2024)*					
E	EE-737	EDPO	Fleury	Term paper	2
Modern photovoltaic technologies *(Block course June 3-7, 2024)*					
E	PHYS-609	EDPO	Haug Heier Romanyuk	Oral presentation	2
Nanophotonics with cavities and antennas *(Block course from July 8 to 12, 2024)*					
E	PHYS-725	EDPO	Galland Greffet	Written	2
Nonlinear fibre optics *(Next time Fall 2024 to be confirmed)*					
E	PHYS-607	EDPO	Brès Thévenaz	Oral presentation	2
Nonlinear Spectroscopy *(Next time August 14 - 27, 2024)*					
E	PHYS-613	EDPO	Roke	Written	4
Optical Computing *(Spring semester 2024)*					
E	MICRO-608	EDPO	Moser Psaltis	Term paper	1

Other doctoral courses (EDOC)

Courses				Exam	Credit
Language	Code	Section	Teacher		
Advanced biomedical imaging methods and instrumentation *(Next time: Fall 2023)*					
E	PHYS-719	EDPY	Invited lecturers Lê Mishkovsky	Term paper	4
Fundamentals of superresolution optical microscopy and Scanning Probe Microscopy *(Next time: Spring)*					
E	PHYS-631	EDPY	Sekatski	Multiple	2

Optical MEMS and micro-optics *(November 14th to 17th, 2023 (Microcity, Neuchatel))*					
E	*MICRO-605*	*EDMI*	*Ataman*	*Written*	*1*
Quantum Information Theory and Computation *(Not offered this year)*					
E	*COM-611*	*EDIC*	*Macris*	*Oral*	*4*
Research seminars in Electrical Engineering - FALL *(Next time: Fall 2024)*					
E	*EE-625(a)*	*EDEE*	*Choo Fleury Matioli*	*Oral presentation*	*1*
Research seminars in Electrical Engineering - SPRING *(Next time: Spring 2025)*					
E	*EE-625(b)*	*EDEE*	*Choo Fleury Matioli*	*Oral presentation*	*1*

External courses

Courses				***Exam***	***Credit***
Language	*Code*	*Section*	*Teacher*		
Fundamental studies on aqueous interfaces *(Registration via https://sites.google.com/view/studiesondroplets)*					
E	*PHYS-801*	*EDPO*	*Roke*	*Oral presentation*	*1*
Nanophotonics and its application for society *(July 10-14, 2023 Registration via http://nanophotonics4society23.epfl.ch/)*					
E	*PHYS-816*	*EDPO*	*Tagliabue*	*Oral*	*2*

Master courses

Courses				***Exam***	***Credit***
Language	*Code*	*Section*	*Teacher*		
Biomedical optics					
E	*BIOENG-445*	*SV*	*Wagnières*	*Oral*	*3*
Biomicroscopy I					
E	*MICRO-561*	*SV*	*Altug*	*Written*	*3*
Biomicroscopy II					
E	*MICRO-562*	*SV*	*Altug Seitz*	*During the semester*	*4*
Deep learning for optical imaging					
E	*MICRO-573*	*MT*	*Psaltis*	*During the semester*	*3*
Fundamentals of biomedical imaging					
E	*PHYS-438*	*PH*	*Gruetter*	*Written*	*4*
Imaging optics					
E	*MICRO-421*	*MT*	*Psaltis*	*During the semester*	*3*
Lasers: theory and modern applications					
E	*MICRO-422*	*MT*	*Kippenberg Moser*	*Written*	*4*
Nonlinear Optics					
E	*PHYS-501*	*MT*	*Roke*	*Written*	*4*
Nonlinear optics for quantum technologies *(pas donné en 2023-24)*					
E	*PHYS-470*	*PH*		*Oral*	*4*
Optical properties of materials					
E	*MSE-482*	*MX*	*Marchioro Nüesch*	*Written*	*3*
Photonic systems and technology					
E	*EE-440*	*EL*	*Brès*	*Written*	*4*
Quantum optics and quantum information					
E	*PHYS-454*	*PH*	*Brantut*	*Written*	*6*
Selected topics in advanced optics					
E	*MICRO-420*	*MT*	*Martin*	*Oral*	*3*