

Studies Plan

EDEE - Electrical Engineering 2023-24

Core courses

Courses	Language Code	Section	Teacher	Exam	Credit
Advanced Methods for Model Identification (Next time: TBA)					
E	EE-607	EDEE	Frigo Paolone	Project report	4
Advanced microwaves for wireless communications (Next time: Spring 2024)					
E	EE-712	EDEE	Skrivervik	Multiple	4
Advanced topics in electromagnetic compatibility (Next time: Spring 2024)					
E	EE-708	EDEE	Rachidi-Haeri	Oral presentation	2
Advanced topics in network neuroscience (Next time: Fall 2023)					
E	EE-619	EDEE	Amico	Written	2
Deep Learning For Natural Language Processing (Next time: Fall 2023)					
E	EE-608	EDEE	Henderson	Multiple	4
Design and Optimization of Internet-of-Things Systems (Next time: Fall 2024)					
E	EE-733	EDEE	Aminian Atienza Alonso Burg	Oral presentation	4
Digital Speech and Audio Coding (Next time: Fall 2024)					
E	EE-719	EDEE	Magimai Doss Motlicek	Multiple	4
EECS Seminar: Advanced Topics in Machine Learning (Next time: Spring 2025)					
E	ENG-704	EDEE	Bosselut Cevher Faltings Flammarion Frossard West	Autre (reprise)	2
Fundamentals in statistical pattern recognition (Next time: Spring 2025)					
E	EE-612	EDEE	Anjos Canévet Marcel	Multiple	4
Graph representations for biology and medicine (Next time: Fall 2023)					
E	EE-626	EDEE	Thanou	Oral	2
Human language technology: applications to information access (Next Time: Fall 2024)					
E	EE-724	EDEE	Popescu-Belis	Multiple	4
Linear system theory (Next time: Fall 2024)					
E	EE-611	EDEE	Müllhaupt	Multiple	4
Machine Learning for Engineers (Next time: Fall 2023)					
E	EE-613	EDEE	Calinon Canévet Odobez Villamizar	Multiple	4
Online learning in games (Next time: Spring 2024)					
E	EE-735	EDEE	Cevher	Oral presentation	4

Optimal control*(Next time : Spring 2024)*

E	EE-715	EDEE	Faulwasser Jiang	Project report	4
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Perception and learning from multimodal sensors*(Next time: Spring 2024)*

E	EE-623	EDEE	Odohez	Written & Oral	4
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Research seminars in Electrical Engineering - FALL*(Next time: Fall 2023)*

E	EE-625(a)	EDEE	Choo Fleury Matioli	Oral presentation	1
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Research seminars in Electrical Engineering - SPRING*(Next time: Spring 2024)*

E	EE-625(b)	EDEE	Choo Fleury Matioli	Oral presentation	1
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Sparse stochastic processes*(Next time: Fall 2024)*

E	EE-726	EDEE	Unser	Multiple	4
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Usability engineering*(Next time: Spring 2024)*

E	EE-600	EDEE	Carrara Lang Stradolini	Project report	3
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Other doctoral courses (EDOC)

Courses				Exam	Credit
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Language Code	Section	Teacher			
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Advanced biomedical imaging methods and instrumentation*(Next time: Fall 2023)*

E	PHYS-719	EDPY	Invited lecturers Lê Mishkovsky	Term paper	4
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Advanced electromagnetics*(Next time Fall 2024 to be confirmed)*

E	EE-624	EDPO	Fleury	During the semester	3
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Advanced III-Nitride Semiconductor Devices*(Students are required to have taken semiconductor classes (EE-557, PHYS-433 or an equivalent) / Next time: Spring 2025)*

E	EE-627	EDEE	Grandjean Matioli	Oral presentation	3
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Advanced micro-/nano- manufacturing*(June 19-23, 2023)*

E	MICRO-632	EDAM	Various lecturers	Written	2
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Electrochemical nano-bio-sensing and bio/CMOS interfaces*(June 10-14, 2024)*

E	MICRO-614	EDMI	Carrara	Project report	1
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Energy Autonomous Wireless Smart Systems*(Next time in Spring 2024)*

E	MICRO-617	EDMI	Burg Dehollain Maloberti Skrivervik	Multiple	3
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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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Nanoscale MOSFETs and beyond CMOS devices*(Next time in Autumn 2024)*

E	MICRO-611	EDMI	Ionescu Zota	Oral	1
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Scientific programming for Engineers*(Next time: Fall 2023)*

E	MATH-611	EDCE	Anciaux	Project report	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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Transient and dynamic analysis of electric power systems*(Next time: tbd)*

E	EE-603	EDEY	Cherkaoui Rachidi-Haeri	Written	3
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External courses

Courses				Exam	Credit
Language Code	Section	Teacher			
Fundamentals of Image Analysis					
<i>(July 3-7, 2023 Registration via https://forms.gle/BcQqmwboeWTAmact8)</i>					
E	EE-805	EDEE	Andò Sage Unser	Written	2

Master courses

Courses				Exam	Credit
Language Code	Section	Teacher			
Adaptation and learning					
E	EE-566	EL	Sayed	Written	4
Advanced probability and applications					
E	COM-417	SC	Shkel	Written	8
Applied data analysis					
E	CS-401	SC	West	Written	8
Artificial neural networks/reinforcement learning					
E	CS-456	IN	Gerstner	Written	6
Bioimage informatics					
E	BIO-410	SV	Sage Seitz	Written	4
Computational neurosciences: neuronal dynamics					
E	NX-465	NX	Gerstner	Written	5
Computational Social Media					
E	DH-500	DH	Gatica-Perez	During the semester	4
Data visualization					
E	COM-480	SC	Vuillon	During the semester	6
Deep learning					
E	EE-559	EL	Cavallaro	During the semester	4
Fundamentals of biomedical imaging					
E	PHYS-438	PH	Gruetter	Written	4
Machine learning					
E	CS-433	IN	Flammarion Jaggi	Written	8
Markov chains and algorithmic applications					
E	COM-516	SC	Lévêque Macris	Written	6
Mathematics of data: from theory to computation					
E	EE-556	EL	Cevher	Written	6
Networks out of control					
<i>(Cours biennial)</i>					
E	COM-512	SC	Grossglauser Thiran	Written	6
Optimization for machine learning					
E	CS-439	IN	Flammarion Jaggi	Written	8
Statistical machine learning					
E	MATH-412	MA	Obozinski	Written	5

Statistics for data science

<i>E</i>	<i>MATH-413</i>	<i>MA</i>	<i>Rubin</i>	<i>Written</i>	<i>8</i>
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Understanding statistics and experimental design

<i>E</i>	<i>BIO-449</i>	<i>SV</i>	<i>Herzog</i>	<i>Written</i>	<i>4</i>
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Wireless receivers: algorithms and architectures

<i>E</i>	<i>EE-442</i>	<i>EL</i>	<i>Burg</i>	<i>During the semester</i>	<i>4</i>
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