

Studies Plan

EDEE - Electrical Engineering 2023-24

Core courses

Courses				Exam	Credit
Language	Code	Section	Teacher		
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: Fall 2024)					
E	EE-708	EDEE	Rachidi-Haeri	Oral presentation	2
Advanced topics in network neuroscience (Next time: TBA)					
E	EE-619	EDEE	Amico	Written	2
Deep Learning For Natural Language Processing (Next time: Fall 2025)					
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 2024)					
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 2025)					
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 for Dynamic Systems**

(Next time: Spring 2024)

E	EE-736	EDEE	Faulwasser Jiang	Oral presentation	3
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**Perception and learning from multimodal sensors**

(Next time: Fall 2024 )

E	EE-623	EDEE	Odobez	Written & Oral	4
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**Research seminars in Electrical Engineering - FALL**

(Next time: Fall 2024)

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
Language	Code	Section	Teacher	
<b>Advanced biomedical imaging methods and instrumentation</b>				
(Next time: Fall 2023 )				
E	PHYS-719	EDPY	Invited lecturers Lê Mishkovsky	Term paper 4
<b>Advanced electromagnetics</b>				
(Next time Fall 2024 to be confirmed)				
E	EE-624	EDPO	Fleury	During the semester 3
<b>Advanced III-Nitride Semiconductor Devices</b>				
(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
<b>Advanced micro-/nano- manufacturing</b>				
(June 19-23, 2023)				
E	MICRO-632	EDAM	Various lecturers	Written 2
<b>Electrochemical nano-bio-sensing and bio/CMOS interfaces</b>				
(June 10-14, 2024 )				
E	MICRO-614	EDMI	Carrara	Project report 1
<b>Energy Autonomous Wireless Smart Systems</b>				
(April 8 to 12, 2024)				
E	MICRO-617	EDMI	Burg Dehollain Maloberti Skrivervik	Multiple 3
<b>Lecture series on scientific machine learning</b>				
(Next time: Fall 2024)				
E	PHYS-754	EDPY	Carleo Ceriotti De Los Rios Mathis Schwaller Wyart Zdeborová	Oral presentation 2
<b>Nanoscale MOSFETs and beyond CMOS devices</b>				
(Next time in Autumn 2025)				
E	MICRO-611	EDMI	Ionescu Zota	Oral 1

**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				
(24-28 June 2024 - Information: <a href="https://imaging.epfl.ch/summer-school">https://imaging.epfl.ch/summer-school</a> - Registrations: <a href="https://forms.gle/FNrdTrBwW7xExt9y9">https://forms.gle/FNrdTrBwW7xExt9y9</a> - Application deadline: 17 March 2024)				
E	EE-805	EDEE	Andò Sage Unser	Written  2

**Multi Agent Reinforcement Learning**(29 to 31 July 2024; Information and Registration via <https://sites.google.com/view/marl-school2024/apply?authuser=0>)

E	EE-806	EDEE	Cevher	Oral	2
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**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***(Cours biennal )*

<i>E</i>	<i>COM-512</i>	<i>SC</i>	<i>Grossglauser Thiran</i>	<i>Written</i>	<i>6</i>
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**Optimization for machine learning**

<i>E</i>	<i>CS-439</i>	<i>IN</i>	<i>Flammarion Jaggi</i>	<i>Written</i>	<i>8</i>
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**Statistical machine learning**

<i>E</i>	<i>MATH-412</i>	<i>MA</i>	<i>Obozinski</i>	<i>Written</i>	<i>5</i>
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**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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