### **Studies Plan**

## EDRS - Robotics, Control, and Intelligent Systems 2023-24

#### Core courses

Course	s			Exam	Credit
Languag	ge Code	Section	Teacher		
	of experiments ne : Fall 2024)	(a) - Fall semester			
E	ENG-606(a)	EDRS	Fuerbringer	Project report	4
	c programming ne : Fall 2023)	and optimal control			
E	ENG-639	EDRS	Summers	Project report	1
	in Autonomous ne: Spring 2025)	Robotics			
E	ENG-615	EDRS	Alahi Bouri Ijspeert Micera Paik Sakar Shea Zamir	Project report	4

#### Other doctoral courses (EDOC)

Cours	es			Exam	Credit
Langu	age Code	Section	Teacher		
	eering of muscu time Fall 2024)	lloskeletal systen	n and rehabilitation		
E	BIO-687	EDBB	Antoniadis Crevoisier Favre Goetti Martin Pioletti Terrier	Multiple	3
(Doing 15 part	a PhD in deep lear Priority to EDCE a		e <b>rs</b> e. Next time Fall 2023, ma Registration link available	ах	
below ι	under "Notes".)				
	under "Notes".) CIVIL-611	EDCE	Alahi Fink Tuia	Oral presentation	4
E Linea	,	EDCE	Alahi Fink	Oral presentation	4
E Linear (Next t	CIVIL-611	EDEE EDEE	Alahi Fink	Oral presentation  Multiple	4
Linear (Next to E Machi	CIVIL-611  r system theory time: Fall 2024)	EDEE	Alahi Fink Tuia	, 	·

# Optimal Control for Dynamic Systems (Next time: Spring 2024)

EE-736

**EDEE** 

**Optimization and simulation** 

(Next time: Spring 2024) **MATH-600** 

**EDCE** Bierlaire Multiple

#### **Master courses**

<b>Cours</b> Langua	ses age Code	Section	Teacher	Exam	Credit	
Adapt	Adaptation and learning					
E	EE-566	EL	Sayed	Written	4	
Advanced control systems						
E	ME-524	GM	Karimi	Written	3	

Faulwasser

Jiang

Oral presentation 3

4

Advanced machine learning (Pas donné en 2023-24. Cours donné tous les deux ans.)

_					
E	MICRO-570	MT		Oral	4
Advanc		and applications			
E	COM-417	SC	Shkel	Written	8
	ed satellite pos	itioning			
•	né en 2023-24)				
E	ENV-542	SIE		During the	4
				semester	
Aerial ro					
E	MICRO-502	MT	Floreano	Written	4
Applied	machine learn	ing			
E	MICRO-455	MT	Billard	Written	4
Basics (	of mobile robot	ics			
E	MICRO-452	MT	Mondada	Written	4
Comput	ational motor of	ontrol			
E	CS-432	SV	ljspeert	During the	4
				semester	
Comput	er vision				
E	CS-442	IN	Fua	Written	6
	optimization				
E E	MGT-418	MTE	Kuhn	Written	5
Deep le			. 501.111		
Deep ie. E	EE-559	EL	Cavallaro	During the	4
_	LL-009	LL	CavailaiU	semester	4
Deen lo	arning for auto	nomous vehicles		JUITUJU	
Deep ie. E	CIVIL-459		Alohi	During tha	6
_	UIVIL-459	GC	Alahi	During the semester	6
Dietribu	ted intelligent	evetome		35111 <b>5</b> 31 <b>5</b> 1	
	ntea intelligent : ané en 2023-24)	ayatema			
(ras don E	ENG-466	SIE		Oral	5
		ory for engineers		Jiai	<u> </u>
	iennal, pas donné				
E	COM-502	SC		Written	6
	onary robotics			***************************************	<u> </u>
	-	MT	Floreano	Writton	3
E	MICRO-515	MT	Floreano	Written	3
<i>E</i> Image a	MICRO-515 malysis and par	ttern recognition			
<i>E</i> Image a	MICRO-515		Bozorgtabar	During the	3
E Image a E	MICRO-515 nalysis and par EE-451	ttern recognition			
E Image a E Image p	MICRO-515 malysis and par EE-451 processing I	ttern recognition <i>EL</i>	Bozorgtabar Thiran	During the semester	4
E Image a E Image p	MICRO-515 nalysis and par EE-451	ttern recognition	Bozorgtabar Thiran Unser	During the	
E Image a E Image p	MICRO-515 malysis and par EE-451 processing I	ttern recognition <i>EL</i>	Bozorgtabar Thiran Unser Van De	During the semester	4
E Image a E Image p E	MICRO-515 Inalysis and part EE-451 Processing I MICRO-511	ttern recognition <i>EL</i>	Bozorgtabar Thiran Unser	During the semester	4
E Image a E Image p E	MICRO-515 Inalysis and part EE-451 Processing I MICRO-511	ttern recognition EL MT	Bozorgtabar Thiran Unser Van De Ville	During the semester Written	3
E Image a E Image p E	MICRO-515 Inalysis and part EE-451 Processing I MICRO-511	ttern recognition <i>EL</i>	Bozorgtabar Thiran Unser Van De Ville Sage	During the semester	4
E Image a E Image p E	MICRO-515 Inalysis and part EE-451 Processing I MICRO-511	ttern recognition EL MT	Bozorgtabar Thiran Unser Van De Ville Sage Unser	During the semester Written	3
E Image a E Image p E	MICRO-515 Inalysis and part EE-451 Processing I MICRO-511	ttern recognition EL MT	Bozorgtabar Thiran Unser Van De Ville Sage Unser Van De	During the semester Written	3
E Image a E Image p E Image p	MICRO-515 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part	ttern recognition EL MT	Bozorgtabar Thiran Unser Van De Ville Sage Unser	During the semester Written	3
E Image a E Image p E Image p E	MICRO-515 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part Inalys	ttern recognition EL  MT  MT	Bozorgtabar Thiran Unser Van De Ville Sage Unser Van De Ville	During the semester Written	3
E Image p E Image p E Image p E Image p	MICRO-515 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part	ttern recognition EL  MT  MT	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  ville	During the semester  Written  Written	3 3
E Image p E Image p E Image p E Image p	MICRO-515 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part Inalys	ttern recognition EL  MT  MT	Bozorgtabar Thiran Unser Van De Ville Sage Unser Van De Ville	During the semester Written	3
E Image a E Image p E Image p E Image p E	MICRO-515 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part	ttern recognition EL  MT  MT	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  org sections.) Sommer	During the semester  Written  Written	3 3
E Image p E Image p E Image p E Industri (This cou	mICRO-515 inalysis and part EE-451 incocessing I MICRO-511 incocessing II MICRO-512 al automation urse can be taken in CS-487 int agents	ttern recognition EL  MT  MT  by students of all engineeringsC	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  og sections.) Sommer Tournier	During the semester  Written  Written  Oral	3 3
E Image p E Image p E Image p E Industri (This cou	MICRO-515 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part EE-451 Inalysis and part	ttern recognition EL  MT  MT	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  org sections.) Sommer	During the semester  Written  Written  Oral	3 3
E Image p E Image p E Image p E Industri (This cou	mICRO-515 inalysis and part EE-451 processing I MICRO-511 processing II MICRO-512 al automation urse can be taken in CS-487 ent agents CS-430	ttern recognition EL  MT  MT  by students of all engineeringsC	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  og sections.) Sommer Tournier	During the semester  Written  Written  Oral	3 3
E Image p E Image p E Image p E Industri (This cou	micro-515 malysis and par EE-451 processing I Micro-511 processing II Micro-512 al automation urse can be taken in CS-487 ent agents CS-430 ion design	ttern recognition EL  MT  MT  by students of all engineering SC  IN	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  og sections.) Sommer Tournier  Faltings	During the semester  Written  Written  Oral  During the semester	3 3 3
E Image p E Image p E Image p E Industri (This cou	mICRO-515 inalysis and part EE-451 processing I MICRO-511 processing II MICRO-512 al automation urse can be taken in CS-487 ent agents CS-430	ttern recognition EL  MT  MT  by students of all engineeringsC	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  og sections.) Sommer Tournier	During the semester  Written  Written  Oral  During the semester  During the	3 3
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E Image p E Image p E Image p E Industri (This cou	mICRO-515 inalysis and part EE-451 processing I MICRO-511 processing II MICRO-512 al automation urse can be taken in CS-487 ent agents CS-430 ion design CS-486	ttern recognition EL  MT  MT  by students of all engineerin SC  IN	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  og sections.) Sommer Tournier  Faltings	During the semester  Written  Written  Oral  During the semester  During the semester  During the semester	3 3 3
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E Image p E Image p E Image p E Industri (This coul E Interact E Interact E Interact E	mICRO-515 inalysis and part EE-451 processing I MICRO-511 processing II MICRO-512 al automation urse can be taken in CS-487 ent agents CS-430 ion design CS-486 ie performance ME-516	ttern recognition EL  MT  MT  by students of all engineerin SC  IN  IN  of product systems	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  og sections.) Sommer Tournier  Faltings  Pu  Friot  Flammarion	During the semester  Written  Written  Oral  During the semester  During the semester  During the semester	3 3 3 6 6
E Image p E Image p E Image p E Industri (This coult E Interlige E Interact E Interact E E Image p	micro-515 inalysis and part EE-451 incoessing I Micro-511 incoessing II Micro-512  al automation urse can be taken incoessing I ccs-487 int agents ccs-430 ion design ccs-486 ie performance ME-516 ie learning ccs-433	ttern recognition EL  MT  MT  by students of all engineerin SC  IN  IN  of product systems GM  IN	Bozorgtabar Thiran  Unser Van De Ville  Sage Unser Van De Ville  og sections.) Sommer Tournier  Faltings  Pu  Friot  Flammarion Jaggi	During the semester  Written  Written  Oral  During the semester  During the semester  During the semester	3 3 3 6 6 3
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Mech	anical product d	esign and develop	ment
_	ME 410	GM	

		sign and development			
Ε	ME-410	GM	Paik	During the semester	5
Micro/N	lano robotics				
E	ME-436	GM	Sakar	During the semester	3
	networks				
(pas doi	nné en 2023-24) COM-405	SC		Written	8
	oredictive contr			vviilleii	
E	ME-425	GM	Jones	Written	4
	gent learning an		Julies	vviilleii	4
E	ME-429	GM	Kamgarpour	During the semester	4
Networ	ked control sys	tems			
E	ME-427	GM	Ferrari Trecate	Written	3
Optima	I decision maki	ng			
E	MGT-483	MTE	Kuhn	Written	4
Robotio	cs practicals				
E	MICRO-453	MT	Billard Boero Bouri Dillenbourg Floreano Kneib Micera Mondada Sakar Skaloud	During the semester	2
	orientation				
E	ENV-548	SIE	Skaloud	During the semester	4
	s in medical ins				
E	EE-511	EL	Chételat Ionescu	Written	3
Statisti	cal machine lea	rning			
E	MATH-412	MA	Obozinski	Written	5
Statisti		lata processing through	applications		
E	COM-500	SC	Ridolfi	Written	8
-	identification				
E	ME-421	GM	Karimi	Written	3
System		for Systems-on-chip			
E	CS-473	IN	Kluter	During the semester	6
Virtual	reality			<u> </u>	
E	CS-444	IN	Boulic	During the semester	6