

ECOLE NATIONALE SUPERIEURE
D'ELECTRICITE ET DE MECANIQUE
2, Avenue de la Forêt de Haye
54500 Vandoeuvre-lès-Nancy



Academic year 2025-2026
Synthetic curriculum 2025-2026 ISN_FISE

Semester S5

Code	Course Unit	ECTS	Code	Course	Coeff	Teacher	Vol	CM	TD	TP
5JUSNN03	Mathematics 1	5	5JESNN30	Complex Analysis	0,34	B. Florentin	20	10	10	0
			5JESNN31	Mathematics for engineers	0,66	A. Gueudin	32	16	16	0
5JUSNN04	Signals, Systems and Electrical Circuits	10	5JESNN41	Electrical Circuits and Applications	0,32	M. Hinaje	40	18	14	8
			5JESNN40	Modeling of Signals, Systems and Link Graphs	0,28	V. Louis-Dorr	30	14	6	10
			5JESNN42	Analytical Modeling in Mechanics and Electricity	0,4	A. Pereira	40	20	20	0
5JUSNN05	Information Sciences 1	5	5JESNN50	Algorithms and programming	0,44	?	30	7	5	18
			5JESNN51	Discrete Mathematics	0,56	J.-F. Pétin	40	22	18	0
5JUSNN02	Languages 1	5	5JESNN20	English	0,5	C. Corringer	24	0	24	0
			5JESNN21	Modern languages 2	0,5	A. Quesada	24	0	24	0
			5JESNN22	Validation of the French language clearance certificate	pass/fail	A. Quesada	1	1	0	0
5JUSNN01	General Training 1	5	5JESNN11	Business environment	0,3	F. Temsamani	20	14	6	0
			5JESNN13	Electrical authorization and occupational health	pass/fail	T. Boileau	8	8	0	0
			5JESNN15	CSR 1	pass/fail	V. Louis-Dorr	11	2	9	0
			5JESNN17	Industrial conferences	pass/fail	P. Villette	6	6	0	0
			5JESNN12	Communication	0,3	A. Thimon	16	0	16	0
			5JESNN14	Project management	0,4	J.-C. Marpeau	18	2	16	0
			5JESNN14	1st year project	pass/fail	J.-C. Marpeau	30	0	0	30

Semester S6

Code	Course Unit	ECTS	Code	Course	Coeff	Teacher	Vol	CM	TD	TP
6JUSNN05	Mathematics 2	5	6JESNN51	Numerical Analysis	0,6	?	36	16	20	0
			6JESNN50	Probability and statistics	0,4	?	36	18	18	0
6JUSNN06	Automation, thermodynamics and simulation	5	6JESNN60	Dynamics of Energy Systems & Applied Kinematics CATIA	0,44	B. Remy	30	10	8	12
			6JESNN61	Automatic - Dynamics and Control of Systems	0,56	J. Daafouz	36	14	7	15
6JUSNN04	Study office	5	6JESNN40	SAMI design office	1	V. Louis-Dorr	45	0	0	45
6JUSNN07	Computer science	5	6JESNN70	Algorithmics and Object-Oriented Programming	0,36	V. Chevrier	30	7	5	18
			6JESNN71	Databases	0,28	?	18	6	3	9
			6JESNN72	Algorithms and data structures	0,36	YQ Song	27	9	6	12
6JUSNN02	Languages 2	5	6JESNN20	English	0,5	C. Corringer	24	0	24	0
			6JESNN21	Modern Languages 2	0,5	A. Quesada	24	0	24	0
			6JESNN22	Validation of the French language clearance certificate	pass/fail	A. Quesada	1	1	0	0
6JUSNN01	General Training 2	5	6JESNN12	Management	0,2	F. Temsamani	16	10	6	0
			6JESNN14	Innovation and Entrepreneurship	0,2	F. Temsamani	12	0	12	0
			6JESNN13	Electrical authorization and occupational health	pass/fail	T. Boileau	0,5	0	0	0,5
			6JESNN15	CSR 2	pass/fail	C. Laurent	14	8	6	0
			6JESNN16	Industrial conferences	pass/fail	P. Villette	6	6	0	0
			6JESNN11	Communication and professional integration	0,2	A. Thimon	14	2	12	0
			6JESNN10	1st year project	0,4	N. Marpeau	20	0	0	20
Projects (foreign students)		25	Projects (foreign students)		1	S. Gallaire				

Semester S7

Code	Course Unit	ECTS	Code	Course	Coeff	Teacher	Vol	CM	TD	TP
7JUSNN01	Optimization / discrete event systems	5	7JESNN10	Modeling, control and evaluation of DES	0,64	J.-F. Pétin	36	12	8	16
			7JESNN11	Static optimization	0,36	P. Riedinger	18	8	10	0
7JUSNN04	Automation & Data Analysis	5	7JESNN40	Nonlinear Systems and Robustness	0,5	J. Daafouz	34	20	6	8
			7JESNN41	Dynamic Optimization	0,25	P. Riedinger	18	8	10	0
			7JESNN42	Data analysis	0,25	R. Ranta	16	8	8	0
JUSNN03	Computer science	5	7JESNN30	Software Analysis and Design	0,7	H. Cirstea	40	20	6	14
			7JESNN31	Algorithms and complexity	0,3	V. Chevrier	20	10	10	0
7JUSNN02	Signal and information processing	5	7JESNN21	Transmission of Information	0,5	V. Louis-Dorr	36	16	4	16
			7JESNN20	Signal Processing	0,5	D. Wolf	36	20	12	4
7JUSNN06	Systems and networks	5	7JESNN60	Computer networks	0,5	YQ Song	18	6	2	10
			7JESNN61	System programming and C language	0,5	?	18	6	0	12
7JUSNN05	General training 3	5	7JESNN54	CSR 3	pass/fail	B. Remy	14	10	4	0
			7JESNN56	Industrial conferences	pass/fail	P. Villette	6	6	0	0
			7JESNN50	Communication and professional integration	0,15	F. Temsamani	14	6	8	0
			7JESNN51	Accounting Management	0,25	J. Binet	18	6	12	0
			7JESNN52	English	0,3	C. Corringer	24	0	24	0
			7JESNN53	Living Language 2	0,3	A. Quesada	24	0	24	0

Semester S8

Code	Course Unit	ECTS	Code	Course	Coeff	Teacher	Vol	CM	TD	TP
8JUSNN01	General Training 4		8JESNN10	English	0,25	C. Corringier	24	0	24	0
			8JESNN11	Modern Languages 2	0,25	A. Quesada	24	0	24	0
		6	8JESNN13	CSR	0,25	F. Temsamani	14	8	6	0
			8JESNN14	Industrial Conferences - Research Day	pass/fail	B. Remy	12	12	0	0
			8JESNN12	Marketing Strategy & Business Simulation	0,25	J.-C. Marpeau	21	3	18	0
?	8_SA1 AI and Machine Learning		?	Identification of Systems	?	M.Giaccagli	18	8	0	10
		6	?	SA Machine learning	?	M.Kallas-Edelson	20	10	10	0
			?	Reinforcement learning	?	J. Daafouz	22	8	6	8
?	8_SA2 Control and optimization		?	Digital Control SA	?	J. Kreiss	28	10	8	10
		6	?	Predictive ordering	?	P. Riedinger	16	4	12	0
			?	Event order	?	R. Postoyan	16	6	2	8
?	8_SA3 Embedded and distributed systems		?	Digital Systems Design SA	?	M.Kallas-Edelson	26	6	4	16
		6	?	Computer vision design office	?	S. Le Cam	22	0	0	22
			?	IoT systems	?	YQ Song	16	5	2	9
?	8_SA4 Safety, security		?	Safety of Operation SA	?	N. Brinzei	40	20	2	18
		6	?	Security of Automated Systems	?	?	16	6	2	8
8JUSNN06	8_SLE1 Preparatory	6	8JESNN62	SLE Machine learning	0,5	M.Kallas-Edelson	20	10	10	0
			8JESNN61	Cybersecurity Awareness	0,5	R. Badonnel	20	12	4	4
8JUSNN07	8_SLE2 Control and design of embedded and real-time systems		8JESNN70	SLE Digital Control	0,33	J. Daafouz	30	10	8	12
		9	8JESNN71	SLE Digital Systems Design	0,33	M.Kallas-Edelson	30	6	4	20
			8KEJON57	Real-Time Systems	0,33	V. Bombardier	40	8	16	16
8JUSNN08	8_SLE3 Systems Engineering and Safety		8JESNN80	SLE Operational Safety	0,33	N. Brinzei	40	20	2	18
		9	8JESNN81	SLE System Engineering	0,33	E. Levrat	20	8	12	0
			8KEJON58	Modeling, Verification and Experimentation of Systems	0,33	D. Mery	40	20	20	0
Projects (foreign students)		25	Projects (foreign students)		1	S. Gallaire				

Semester S9

Code	Course Unit	ECTS	Code	Course	Coeff	Teacher	Vol	CM	TD	TP
9KUFGN14	General Training 5	5	9KEFGN61	Bank English	0,5	C. Corringier	24	0	24	0
			9KEFGN64	Professional integration	0,5	F. Temsamani	30	15	15	0
			9KEFGN66	Industrial conferences	pass/fail	V. Chevrier	20	20	0	0
				Validation of international experience	pass/fail	S. Gallaire				
9KUISN09	Project	5	9KEISN92	Academic R&D Project - Industrial R&D Project	1	N. Brinzei	60	0	0	60
9KUISN12	S9 - SA - 01 Signal and image	4	9KEISN93	Basis of image processing	0,35	D. Wolf	20	16	4	0
			9KEISN33	Signal detection, extraction and reconstruction	0,35	R. Ranta	20	12	0	8
			9KEISN22	Biomedical Signals and Systems	0,3	D. Wolf	16	16	0	0
9KUISN11	S9 - SA - 02 Control and piloting	4	9KEISN11	Aero Application	0,33	M.Jungers	16	4	0	12
			9KEISDN61	Autonomous Flight of a Drone	0,33	P. Riedinger	16	8	8	0
			9KEISN14	Multi-Agent Systems Management	0,33	C. Morarescu	16	8	8	0
9KUISN13	S9 - SA - 03 Safety and security	4	9KEISN32	Monitoring and Diagnosis	0,33	S. Maza	16	12	4	0
			9KEISN31	Formal verification of automated systems	0,33	J.-F. Pétin	16	2	2	12
			9KEISN34	Security of Automated Systems	0,33	? / J. Daafouz	16	6	2	8
9KUISN14	S9 - SA - 04 Distributed systems	4	9KEISN43	Distributed Algorithms and Blockchain	0,33	?	16	6	2	8
			9KEISN44	Distributed Systems	0,33	V. Chevrier	16	8	2	6
			9KEISN45	IoT systems	0,33	YQ Song	16	5	2	9
9KUISN15	S9 - SA - 05 Robotics and Autonomous Vehicles	4	9KEISN52	Introduction to Robotics	0,3	D. Wolf	16	8	0	4
			9KEISN53	Autonomous Vehicle Design Office	0,7	? / J. Kreiss	28	0	0	28
9KUISN17	S9 - SLE - 01 Intelligent communicating systems and security	6	9KEJON54	Mobile Applications and Internet of Things	0,33	T. Cholez	24	6	10	8
			9KEISN73	Industrial embedded networks	0,33	YQ Song	20	8	4	8
			9KEISN74	Security of an embedded system	0,33	?	20	8	0	12
9KUISN18	S9 - SLE - 02 Advanced Machine Architecture	8	9KEISN82	Distributed and distributed systems - Edge-Fog computing	0,25	?	20	6	2	12
			9KEJON56	Parallel and distributed programming	0,25	S. Lefebvre / J. Martinez	22	6	16	0
			9KEJON55	Design and development of a system on a chip	0,5	Y. Berviller / S. Lefebvre	70	4	2	64
9KUISN19	S9 - SLE - 03 Advanced technologies for embedded systems	6	9KEISN95	Image Processing	0,33	S. Le Cam	20	8	8	4
			9KEISN96	Urbanloop design office	0,67	? / V. Bombardier	20	10		10
Projects (foreign students)		25	Projects (foreign students)		1	S. Gallaire				

Semester S10

Code	Course Unit	ECTS	Code	Course	Coeff	Teacher	Vol	CM	TD	TP
OKSTAN01	Engineering or R&D Internship	30	OKSTAN10	Engineering Internship	1					