

Teaching Units	Teaching modules	Code	Hours			ECTS
			Course	Practical Work	Total	
Languages	French as a foreign language		20		20	5
Personal Research Project	Writing Report Oral Defense					10

Group projects and advanced technologies						
	Industrial project Management	3LMC16		15	15	10
	Industrial project	3IAP3		30	30	
	Intensive project	3IAP2		45	45	
	Transmission of Information : Compression, Coding	3IB3	25		25	
	Total			25	90	115

Students cannot simultaneously choose modules inside the units "Image, Sound and Artificial Intelligence" and "E- payment and Computer Security".

Image, Sound and Artificial Intelligence						
Image, Sound and multimedia	<i>Pattern Recognition *</i>	3IE1	22	8	30	10
	<i>Image and Sound Processing *</i>	3ID2	38	18	56	
	Computer Generated Imagery	3ID4	12	14	26	
	Virtual Reality	3ID4	6	6	12	
	Automatic Generation of Image; Style Transfer	3IE6	5	8	13	
	Image Intensive Project	3IE4		6	6	
Total			83	60	143	10
Artificial intelligence	Tools for Deep Learning	3IE5	9	8	17	5
	Data Mining	3IE3	14	6	20	
	<i>Machine learning *</i>	3IE2	22	8	30	
	Total			45	22	67

*Courses in italics may partly or completely be taught in French with slides, handouts and examinations in English

E-payment and Computer Security						
Computer Security	<i>Embedded cryptography *</i>	3IG1	12	24	36	10
	Digital identity	3IG2	20	12	32	
	<i>Information System security *</i>	3IG4	20	16	36	
	Advanced networks: security and performance	3IAP1	10		10	
	<i>Biometry *</i>	3IMR2	20		20	
	Total		82	52	134	10
E-payment	<i>E-payment flows *</i>	3IF5	14	12	26	5
	<i>E-payment components *</i>	3IF4	12	3	15	
	<i>Risk management and PCI-DSS *</i>	3IF6	10		10	
	Contactless transactions	3IF7	11	12	23	
	<i>E-payment architectures *</i>	3IF8	10	8	18	
	Total		57	45	102	5

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