Physical engineering and embedded systems

Fall semester (Sept - Feb) 2nd year of Master

Teaching Units	Teaching modules	Code	Hours			ECTS
			Course	Practical Work	Total	
Languages	French as a foreign language		20		**20**	**5**

Nuclear engineering - GENE

Teaching Units	Teaching modules	Code	Course	Practical Work	Total	ECTS
Physics of nuclear reactors	**Neutronics 2**	3EAC1	13	6	**19**	8
	Deterministic simulations	3EAC4	15	33	**48**	
	Materials for nuclear plants	3EAC3	18		**18**	
Nuclear plant commissioning	Nuclear safety		21		**21**	5
	Pressurized water reactor	3EAD5	13	16	**29**	
Total					135	**13**

Courses in bold are taught in English with slides and handouts in French.

Embedded Systems and Control - SATE

Teaching Units	Teaching modules	Code	Course	Practical Work	Total	ECTS
Project and FPGA	Conferences	3EAK3	5		**5**	8
	SoC on FPGA	3EAH6		30	**30**	
	Industrial project			65	**65**	
Control and software engineering	Software engineering	3EAG7	5	10	**15**	4
	Adaptative control	3EAG8	1.5	7.5	**9**	
	Architecture for computing	2E1AC2	9	30	**39**	
Embedded Linux and signal	Error correcting codes	3EAH10	6	6	**12**	9
	Embedded Linux	3EAH5	6	30	**36**	
	Engineering intensive project	3EAH9		35	**35**	
	Adaptive filtering (2023)	3EAH4	15	18	**33**	
Total					279	**21**

Courses in italics are taught in French with slides, handouts and examinations in English

Physical Engineering of Sensors - IPC

Teaching Units	Teaching modules	Code	Course	Practical Work	Total	ECTS
Imaging	Image processing	3EIB2	4	24	**28**	3
Instrumentation and connectivity	Smart sensors			29	**29**	10
	Advanced instrumentation for sensors	3EAE1	15	18	**33**	
	Real time systems, IOT	3EAF5	9	21	**30**	
Biomedical	Physics and technology of medical devices	3EAB4	20		**20**	2
Total					140	**15**

If the student would like to carry out a project in one of our labs, following their study semester, they will also be able to follow other courses in parallel

- optoelectronics (24 hours of courses, 2 ECTS)
- nuclear physics simulations (9 hours of courses, 15 hours of practical work, 2 ECTS)