Cycle view of the study programme

		Bl	Or	Th	Pr	Au	Cr
Compulsory courses (B1 : 55Cr, B2 : 60Cr)							
LANG9999-1	*Mastery of the French language* - Nicolas GREGOV	B1	Q2	30	-	-	**5**
ZENS0013-1	*Teaching methodologies and learning processes* - Annick FAGNANT, Audrey IGNELZI, Bertrand MONVILLE	B1	Q1	35	-	-	**5**
ZENS0015-1	*Professional identity, ethics, and managing critical incidents* - Davian BIETS, JeanFrançois GUILLAUME	B1	Q1	12	-	-	**2**
ZENS0014-1	*Class management, class environment and specific behavioural needs* - Ariane BAYE, Jérémy BONNI	B1	Q1	12	-	-	**2**
ZENS0037-1	*Teaching methodology for physics (part I)* - PierreXavier MARIQUE	B1	Q1	18	-	-	**3**
HULG9829-1	*Information and communication technologies for education (ICTE)* - Carole DELFORGE	B1	Q1	12	-	-	**2**
ZENS0019-1	*Media education* - Thomas JUNGBLUT, Elise SCHÜRGERS, Elise SCHÜRGERS	B1	Q2	12	-	-	**2**
ZENS0030-1	*Assessment and differentiation* - *Teaching part* - Jean BARON, Marie COLLET, Annick FAGNANT, Pierre LERUSSE, Laurent MULLENS BOXHO, Christelle RIGO - *Methodology part* - Fabrice ARGOUNÈS, Kevin BALHAN, Patricia GARDIER, JeanFrançois GUILLAUME, Anne HERLA, MarieNoëlle HINDRYCKX, PierreXavier MARIQUE, Ingrid MAYEUR, Deborah MEUNIER, Vincent NATALIS, Pierre OUTERS, Paul PIETQUIN, Florence PIRARD, Gaël PIRARD, Maurine REMACLE, Jérome SCHOENMAECKERS, Germain SIMONS	B1	Q2 18 6	 - -	 - -		**4**
ZENS0054-1	*Introduction to research in education and teaching methodologies* - Marie HOUSEN, Mickaël IDRAC, Doriane JAEGERS, Pierre LERUSSE, PierreXavier MARIQUE, Grégory VOZ, Christophe WINKIN	B1	Q2	30	-	-	**5**
SSTG0174-1	*Internship in physics (part 1)* - *Observation internship and professional training workshop* - Hervé BERNARD, Géraldine GODET, Pierre LERUSSE, Pierre LORIAUX, Margaux NOIZET, Virginie OGER - [10h Internship] - *Teaching internship A and professional training workshop* - PierreXavier MARIQUE, Christophe WINKIN - [8h Internship] - *Teaching internship B and professional training workshop* - PierreXavier MARIQUE, Christophe WINKIN - [12h Internship]	B1	TA - - -	 5 9 12	 [+] [+] [+]		**10**
PHYS0974-1	*Materials physics and biophysics* - Maryse HOEBEKE, Alejandro SILHANEK - Suppl : Bertrand DUPÉ	B1	Q1	30	-	-	**5**
PHYS0930-1	*Atomic physics* - Thierry BASTIN, François DAMANET, Peter SCHLAGHECK	B1	Q1	30	-	-	**5**
PHYS0975-1	*Introduction to soft matter and complex systems* - Nicolas VANDEWALLE - Suppl : Megan DELENS	B1	Q1	30	-	-	**5**
ZENS0016-1	*The educational system and actors of change* - Ariane BAYE, COLLÉGIALITÉ, Géraldine GODET, N...	B2	TA	12	15	-	**3**
ZENS0017-1	*Organisation of a school establishment and collaborative working* - JeanFrançois GUILLAUME, Tulay TASKIN	B2	Q1	12	-	-	**2**
ZENS0096-1	*Physics and associated teaching methodology 1* - PierreXavier MARIQUE	B2	Q1	30	-	-	**5**
HULG0996-1	*Physics and associated teaching methodology 2* - Denis FONTAINE	B2	Q1	30	-	-	**5**
ZENS0237-1	*Teaching methodology for physics (part II)* - PierreXavier MARIQUE	B2	Q2	18	-	-	**3**
SSTG0274-1	*Internship in physics (part 2) and professional training workshop* - Hervé BERNARD, Annick FAGNANT, Géraldine GODET, Pierre LERUSSE, Pierre LORIAUX, PierreXavier MARIQUE, Laurent MULLENS BOXHO,	B2	Q2	-	21	[+]	**11**

	N..., Virginie OGER, Christophe WINKIN - [40h Internship]						
ZENS0022-1	*The philosophy of education: ethics, neutrality, citizenship* - Géraldine BRAUSCH, Anne HERLA	B2	Q2	18	-	-	**3**
HULG9830-1	*Collegial facets of the profession* - Marie COLLET, Fulvie JACQUES, Margaux NOIZET, MarieHélène STRAETEN	B2	TA	24	-	-	**4**
HULG0887-1	*Didactic aspects of the transition with the common core: physics* - Floriane WEYER - [20h Internship]	B2	TA	24	-	[+]	**4**
SMEM0051-1	*Final thesis* - COLLÉGIALITÉ	B2	TA	-	-	-	**20**

Optional courses (B1 : 10Cr)

With the agreement of the board of examiners, select two courses from two different subject areas, for a total of 10 credits, from the following: (B1 : 10Cr)

Atomic and nuclear

PHYS0932-1	*Cold atoms and atomic clocks* - Thierry BASTIN	B1	Q2	20	10	-	**5**
PHYS2027-2	*Ultracold atoms and Bose-Enstein condensates* - Peter SCHLAGHECK	B1	Q2	25	-	-	**5**
PHYS0235-2	(pas organisé en 2026-2027) *Quantum optics* - John MARTIN	B1	Q2	20	10	-	**5**
PHYS0941-2	*Theoretical physics : Nuclei and particles* - JeanRené CUDELL	B1	Q1	30	-	-	**5**
PHYS3021-1	*Advanced quantum mechanics* - Thierry BASTIN, John MARTIN, Peter SCHLAGHECK	B1	Q1	30	-	-	**5**
PHYS0997-1	*Quantum information and computation* (english language) - François DAMANET	B1	Q1	30	-	-	**5**
PHYS3136-1	*Open quantum systems* (english language) - François DAMANET, John MARTIN - [10h Proj.]	B1	Q2	20	-	[+]	**5**
PHYS3138-1	*Nuclear physics: energy and materials* - David STRIVAY - [1d Vis.]	B1	Q2	25	4	[+]	**5**

Soft Materials / Statistical Physics

PHYS0969-1	*Introduction to biophotonics* - Laurent DREESEN	B1	Q2	20	10	-	**5**
PHYS0939-2	*Physics of non-linearities, chaos and fractals* - Nicolas VANDEWALLE - Suppl : Megan DELENS	B1	Q2	15	15	-	**5**
PHYS3020-1	*Discrete element method and soft materials* - Eric OPSOMER - [15h Proj.]	B1	Q2	20	-	[+]	**5**
PHYS1987-1	*Active ingredient* - Eric OPSOMER, Nicolas VANDEWALLE	B1	Q2	30	-	-	**5**

Materials / Solid State

PHYS3003-1	*Physics of functional oxides* (english language) - Philippe GHOSEZ	B1	Q1	20	10	-	**5**
PHYS3023-1	*Physics of magnetic materials* (english language) - Eric BOUSQUET	B1	Q2	20	10	-	**5**
PHYS0981-1	*Quantum modelling of materials properties* (english language) - Philippe GHOSEZ	B1	Q1	20	10	-	**5**
PHYS0987-1	*Physics of materials for energy* (english language) - Ngoc Duy NGUYEN - [15h Proj.]	B1	Q1	20	-	[+]	**5**
PHYS0988-1	*Intrinsic and induced topological properties of matter* (english language) - Bertrand DUPÉ	B1	Q2	20	10	-	**5**

Quantum Physics and Relativity

PHYS2012-1	*Relativistic quantum mechanics and relativistic statistics* - Peter SCHLAGHECK	B1	Q1	20	5	-	**5**
SPAT0012-1	*General relativity* (english language) - Guillaume MAHLER	B1	Q1	30	10	-	**5**

Experimental Physics

PHYS0250-2	*Experimental statistical physics* - Stéphane DORBOLO	B1	Q2	10	20	-	**5**
PHYS3019-1	*Techniques of experimental physics* - Geoffroy LUMAY	B1	Q2	20	20	-	**5**
PHYS0943-1	*Spectroscopy of electronic paramagnetic resonance* - Maryse HOEBEKE	B1	Q2	15	15	-	**5**
PHYS0968-1	*Signal processing* - Alejandro SILHANEK - Suppl : Peter SCHLAGHECK	B1	Q2	25	20	-	**5**
PHYS3037-1	*Nanofabrication : principles and techniques* (english language) - Ngoc Duy NGUYEN, Alejandro SILHANEK	B1	Q2	25	20	-	**5**
PHYS0999-1	*Digital creation in sciences* - Roland BILLEN, Valentin FISCHER, JeanChristophe MONBALIU, Eric PARMENTIER, Michel RIGO, Nicolas VANDEWALLE - [30h Proj.]	B1	TA	10	-	[+]	**5**
Optics and Imaging							
PHYS0942-3	*Ionising radiations and imaging* - Alain SERET	B1	Q1	20	5	-	**5**
PHYS0938-1	*Physics and cultural heritage* - David STRIVAY	B1	Q1	20	12	-	**5**
PHYS0048-2	*Coherent and incoherent optics* (english language) - *Coherent optics and lasers applications* - Serge HABRAKEN - *Laser physics* - Serge HABRAKEN	B1	Q1 10 5	 15 5	 - -		**5**
PHYS0048-3	*Coherent and incoherent optics, Instrumental optics I* (english language) - Serge HABRAKEN	B1	Q1	20	15	-	**5**