

Block view of the study programme

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Block 1
Compulsory courses

LANG9999-1	<i>Mastery of the French language</i>	Q2	30	-	-	5
ZENS0013-1	<i>Teaching methodologies and learning processes</i> - Annick FAGNANT, Charlene LEROY, Bertrand MONVILLE	Q1	35	-	-	5
ZENS0015-1	<i>Professional identity, ethics, and managing critical incidents</i> - Davian BIETS, JeanFrançois GUILLAUME	Q1	12	-	-	2
ZENS0014-1	<i>Class management, class environment and specific behavioural needs</i> - Ariane BAYE, Jérémy BONNI	Q1	12	-	-	2
ZENS0037-1	<i>Teaching methodology for physics (part I)</i> - PierreXavier MARIQUE	Q1	18	-	-	3
HULG9829-1	<i>Information and communication technologies for education (ICTE)</i> - Carole DELFORGE	Q1	12	-	-	2
ZENS0019-1	<i>Media education</i> - Thomas JUNGBLUT	Q2	12	-	-	2
ZENS0030-1	<i>Évaluation et différenciation</i> - <i>Partie pédagogique</i> - Marie COLLET, Annick FAGNANT, Deborah MEUNIER, Deborah MEUNIER, Pierre OUTERS, Paul PIETQUIN, Germain SIMONS - <i>Partie didactique</i>	Q2	18	-	-	4
ZENS0054-1	<i>Introduction to research in education and teaching methodologies</i> - Marie HOUSEN, Mickaël IDRAC, Doriane JAEGERS, Pierre LERUSSE, PierreXavier MARIQUE, Grégory VOZ, Christophe WINKIN	Q2	30	-	-	5
SSTG0174-1	<i>Internship in physics (part 1)</i> - <i>Observation internship and professional training workshop</i> - Hervé BERNARD, Annick FAGNANT, Géraldine GODET, Pierre LORIAUX, Laurent MULLENS BOXHO, Margaux NOIZET, Virginie OGER, Coline VINCENT - [10h Internship] - <i>Teaching internship A and professional training workshop</i> - PierreXavier MARIQUE, Christophe WINKIN - [8h Internship] - <i>Teaching internship B and professional training workshop</i> - Annick FAGNANT, PierreXavier MARIQUE, Christophe WINKIN - [12h Internship]	TA	-	5	[+]	10
PHYS0974-1	<i>Materials physics and biophysics</i> - Maryse HOEBEKE, Alejandro SILHANEK - Suppl : Bertrand DUPÉ	Q1	30	-	-	5
PHYS0930-1	<i>Atomic physics</i> - Thierry BASTIN, François DAMANET, Peter SCHLAGHECK	Q1	30	-	-	5
PHYS0975-1	<i>Introduction to soft matter and complex systems</i> - Nicolas VANDEWALLE	Q1	30	-	-	5

Optional courses

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:

Atomic and nuclear

PHYS0932-1	<i>Cold atoms and atomic clocks</i> - Thierry BASTIN	Q2	20	10	-	5
PHYS2027-2	<i>Ultracold atoms and Bose-Einstein condensates</i> - Peter SCHLAGHECK	Q2	25	-	-	5
PHYS0235-2	(pas organisé en 2026-2027) <i>Quantum optics</i> - John MARTIN	Q2	20	10	-	5
PHYS0941-2	<i>Theoretical physics : Nuclei and particles</i> - JeanRené CUDELL	Q1	30	-	-	5
PHYS3021-1	<i>Advanced quantum mechanics</i> - Thierry BASTIN, John MARTIN, Peter SCHLAGHECK	Q1	30	-	-	5
PHYS0997-1	<i>Quantum information and computation (english language)</i> - François DAMANET	Q1	30	-	-	5
PHYS3136-1	<i>Open quantum systems (english language)</i> - François DAMANET,	Q2	20	-	[+]	5

ARTIN - [10h Proj.]

PHYS3138-1 *Nuclear physics: energy and materials* - David STRIVAY - [1d Vis.] Q2 25 4 [+] 5

Soft Materials / Statistical Physics

PHYS0969-1 *Introduction to biophotonics* - Laurent DREESEN Q2 20 10 - 5

PHYS0939-2 *Physics of non-linearities, chaos and fractals* - Nicolas VANDEWALLE Q2 15 15 - 5

PHYS3020-1 *Discrete element method and soft materials* - Eric OPSOMER - [15h Proj.] Q2 20 - [+] 5

PHYS1987-1 *Matière active* - Eric OPSOMER, Nicolas VANDEWALLE Q2 30 - - 5

Materials / Solid State

PHYS3003-1 *Physics of functional oxides (english language)* - Philippe GHOSEZ Q1 20 10 - 5

PHYS3023-1 *Physics of magnetic materials (english language)* - Eric BOUSQUET Q2 20 10 - 5

PHYS0981-1 *Quantum modelling of materials properties (english language)* - Philippe GHOSEZ Q1 20 10 - 5

PHYS0987-1 *Physics of materials for energy (english language)* - Ngoc Duy NGUYEN - [15h Proj.] Q1 20 - [+] 5

PHYS0988-1 *Intrinsic and induced topological properties of matter (english language)* - Bertrand DUPÉ Q2 20 10 - 5

Quantum Physics and Relativity

PHYS2012-1 *Relativistic quantum mechanics and relativistic statistics* - Peter SCHLAGHECK Q1 20 5 - 5

SPAT0012-1 *General relativity (english language)* - Guillaume MAHLER Q1 30 10 - 5

Experimental Physics

PHYS0250-2 *Experimental statistical physics* - Stéphane DORBOLO Q2 10 20 - 5

PHYS3019-1 *Techniques of experimental physics* - Geoffroy LUMAY Q2 20 20 - 5

PHYS0943-1 *Spectroscopy of electronic paramagnetic resonance* - Maryse HOEBEKE Q2 15 15 - 5

PHYS0968-1 *Signal processing* - Alejandro SILHANEK - Suppl : Peter SCHLAGHECK Q2 25 20 - 5

PHYS3037-1 *Nanofabrication : principles and techniques (english language)* - Ngoc Duy NGUYEN, Alejandro SILHANEK Q2 25 20 - 5

PHYS0999-1 *Digital creation in sciences* - Roland BILLEN, Valentin FISCHER, JeanChristophe MONBALIU, Eric PARMENTIER, Michel RIGO, Nicolas VANDEWALLE - [30h Proj.] TA 10 - [+] 5

Optics and Imaging

PHYS0942-3 *Ionising radiations and imaging* - Alain SERET Q1 20 5 - 5

PHYS0938-1 *Physics and cultural heritage* - David STRIVAY Q1 20 12 - 5

PHYS0048-2 *Coherent and incoherent optics (english language)* - Serge HABRAKEN Q1 10 15 - 5
- Coherent optics and lasers applications - Serge HABRAKEN 5 5 -
- Laser physics - Serge HABRAKEN

PHYS0048-3 *Coherent and incoherent optics, Instrumental optics I (english language)* - Serge HABRAKEN Q1 20 15 - 5

Block 2

Compulsory courses

ZENS0016-1 *The educational system and actors of change* - Ariane BAYE, COLLÉGIALITÉ, Géraldine GODET, N... TA 12 15 - 3

ZENS0017-1 *Organisation of a school establishment and collaborative working* - JeanFrançois GUILLAUME, Tulay TASKIN Q1 12 - - 2

ZENS0096-1	<i>Physics and associated teaching methodology 1</i> - PierreXavier MARIQUE	Q1	30	-	-	5
HULG0996-1	<i>Physics and associated teaching methodology 2</i> - Denis FONTAINE	Q1	30	-	-	5
ZENS0237-1	<i>Teaching methodology for physics (part II)</i> - PierreXavier MARIQUE	Q2	18	-	-	3
SSTG0274-1	<i>Internship in physics (part 2) and professional training workshop</i> - Hervé BERNARD, Annick FAGNANT, Géraldine GODET, Pierre LORIAUX, PierreXavier MARIQUE, Laurent MULLENS BOXHO, N..., Virginie OGER, Coline VINCENT, Christophe WINKIN - [40h Internship]	Q2	-	21	[+]	11
ZENS0022-1	<i>The philosophy of education: ethics, neutrality, citizenship</i> - Géraldine BRAUSCH, Anne HERLA	Q2	18	-	-	3
HULG9830-1	<i>Collegial facets of the profession</i> - Anne CAMPO, Dorothée JARDON, Charlène LEROY, Margaux NOIZET	TA	24	-	-	4
HULG0887-1	<i>Didactic aspects of the transition with the common core: physics</i> - Floriane WEYER - [20h Internship]	TA	24	-	[+]	4
SMEM0051-1	<i>Final thesis</i> - COLLÉGIALITÉ	TA	-	-	-	20