Cycle view of the study programme

		Bl	Or	Th	Pr	Au	Cr

THIS MASTER IS ONLY ACCESSIBLE TO STUDENTS ENROLLED BEFORE THE 2022-2023 ACADEMIC YEAR.

Compulsory courses (B1 : 36Cr)

PHYS0974-1	*Materials physics and biophysics* - Maryse HOEBEKE, Alejandro SILHANEK	B1	Q1	30	-	-	**5**
PHYS0930-1	*Atomic physics* - Thierry BASTIN, Peter SCHLAGHECK	B1	Q1	30	-	-	**5**
PHYS0975-1	*Introduction to soft matter and complex systems* - Nicolas VANDEWALLE	B1	Q1	30	-	-	**5**
PHYS0983-1	*Seminars in advanced physics I* (english language) - *Materials physics and biophysics* - COLLÉGIALITÉ - *Atomic physics* - COLLÉGIALITÉ - *Physics of soft matter and complex systems* - COLLÉGIALITÉ	B1	TA 10 10 10	 - - -	 - - -		**4**
SMEM0027-1	*Final thesis* - COLLÉGIALITÉ	B1	TA	-	-	-	**17**

Optional courses (B1 : 24Cr)

In agreement with the jury, chose courses for a total of 24 credits from among: (B1 : 24Cr)

Atomic and nuclear

PHYS0932-1	*Cold atoms and atomic clocks* - Thierry BASTIN **Corequisite :** PHYS0930-1 - Physique atomique	B1	Q2	20	10	-	**4**
PHYS2027-2	*Ultracold atoms and Bose-Enstein condensates* - Peter SCHLAGHECK **Corequisite :** PHYS3021-1 - Mécanique quantique avancée PHYS0930-1 - Physique atomique	B1	Q2	25	-	-	**4**
PHYS0235-2	*Introduction to quantum optics* - John MARTIN **Corequisite :** PHYS0930-1 - Physique atomique PHYS3021-1 - Mécanique quantique avancée	B1	Q2	20	10	-	**4**
PHYS0949-1	*Atomic structures modelling* - Pascal QUINET **Corequisite :** PHYS0930-1 - Physique atomique	B1	Q2	10	10	-	**4**
PHYS0941-2	*Theoretical physics : Nuclei and particles* - JeanRené CUDELL	B1	Q1	30	-	-	**4**
PHYS3021-1	*Advanced quantum mechanics* - Thierry BASTIN, John MARTIN, Peter SCHLAGHECK	B1	Q1	30	-	-	**4**
PHYS0997-1	*Quantum information and computation* (english language) - François DAMANET	B1	Q1	30	-	-	**4**

Soft Materials / Statistical Physics

PHYS0969-1	*Introduction to biophotonics* - Laurent DREESEN	B1	Q2	20	10	-	**4**
PHYS0939-2	*Physics of non-linearities, chaos and fractals* - Nicolas VANDEWALLE **Corequisite :** PHYS0975-1 - Introduction à la matière molle et aux systèmes complexes	B1	Q2	15	15	-	**4**
PHYS3020-1	*Digital tools of soft matter* - Geoffroy LUMAY, Eric OPSOMER	B1	Q2	15	15	-	**4**
PHYS0948-1	*Microgravity* - Nicolas VANDEWALLE - [3d FW] **Corequisite :** PHYS0975-1 - Introduction à la matière molle et aux systèmes complexes	B1	Q2	10	20	[+]	**4**

Materials / Solid State

PHYS3003-1	*Physics of functional oxides* (english language) - Philippe GHOSEZ **Corequisite :**	B1	Q1	20	10	-	**4**

	PHYS0974-1 - Physique des matériaux et biophysique						
PHYS0980-1	*Spectroscopy of materials* (english language) - Matthieu VERSTRAETE **Corequisite :** PHYS0974-1 - Physique des matériaux et biophysique	B1	Q1	20	10	-	**4**
PHYS3004-1	*Physics of nanomaterials* (english language) - JeanYves RATY **Corequisite :** PHYS0974-1 - Physique des matériaux et biophysique	B1	Q1	20	10	-	**4**
PHYS0982-1	*Physics of semiconductors* (english language) - Ngoc Duy NGUYEN **Corequisite :** PHYS0974-1 - Physique des matériaux et biophysique	B1	Q1	15	-	-	**2**
PHYS3023-1	*Physics of magnetic materials* (english language) - Eric BOUSQUET **Corequisite :** PHYS0974-1 - Physique des matériaux et biophysique	B1	Q2	20	10	-	**4**
PHYS0981-1	*Quantum modelling of materials properties* (english language) - Philippe GHOSEZ, Matthieu VERSTRAETE **Corequisite :** PHYS0974-1 - Physique des matériaux et biophysique	B1	Q1	20	10	-	**4**
CHIM0202-2	*Physical Chemistry* - Christian DAMBLON, Bernard LEYH	B1	Q2	30	-	-	**4**
PHYS0987-1	*Physics of materials for energy* (english language) - Philippe GHOSEZ, Ngoc Duy NGUYEN	B1	Q1	30	-	-	**4**
PHYS0988-1	*Intrinsic and induced topological properties of matter* (english language) - Bertrand DUPÉ	B1	Q2	20	10	-	**4**
Quantum Physics and Relativity							
PHYS2012-1	*Relativistic quantum mechanics and relativistic statistics* - Peter SCHLAGHECK	B1	Q1	20	5	-	**4**
SPAT0012-1	(pas organisé en 2022-2023) *General relativity, Part 1: Introduction* - N...	B1	Q1	20	-	-	**4**
SPAT0012-2	(pas organisé en 2022-2023) *General relativity, Part 2: Mathematics methods* - N... **Corequisite :** SPAT0012-1 - Relativité générale	B1	Q1	20	-	-	**2**
SPAT0012-3	(pas organisé en 2022-2023) *General relativity, Part 3: supplement* - N... **Corequisite :** SPAT0012-2 - Relativité générale	B1	Q2	20	-	-	**2**
Experimental Physics							
PHYS0250-2	*Experimental statistical physics* - Stéphane DORBOLO **Corequisite :** PHYS0975-1 - Introduction à la matière molle et aux systèmes complexes	B1	Q2	10	20	-	**4**
PHYS3019-1	*Techniques of experimental physics* - Geoffroy LUMAY	B1	Q2	20	20	-	**4**
PHYS0943-1	*Spectroscopy of electronic paramagnetic resonance* - Maryse HOEBEKE **Corequisite :** PHYS0974-1 - Physique des matériaux et biophysique	B1	Q2	15	15	-	**4**
PHYS0095-1	*The physics of accelerators and vacuum technologies* - David STRIVAY	B1	Q2	10	10	-	**4**
PHYS0931-1	*Data processing* - Pierre MAGAIN	B1	Q2	15	30	-	**4**
PHYS3037-1	*Nanofabrication: principles and techniques* (english language) - Ngoc Duy NGUYEN, Alejandro SILHANEK - [15h Labo.] **Corequisite :**	B1	Q2	25	15	[+]	**4**

PHYS0974-1 - Physique des matériaux et biophysique

Optics and Imaging

PHYS0942-3	*Ionising radiations and imaging* - Alain SERET	B1	Q1	20	5	-	**4**
PHYS0938-1	*Physics and cultural heritage* - David STRIVAY	B1	Q1	15	5	-	**4**
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	 - -		**4**
PHYS0048-3	*Coherent and incoherent optics, Instrumental optics I* (english language) - Serge HABRAKEN	B1	Q1	20	15	-	**4**

Didactics

PHYS0979-1	*Conceptual approach to basic physics* - Hervé CAPS, Maryse HOEBEKE	B1	Q1	30	-	-	**4**
AESS0241-1	*Introduction to physics didactics* - Maryse HOEBEKE	B1	Q1	20	-	-	**4**

[...] Up to 8 ECTS can be chosen in another study path or in another institution

Additional ECTS (max 15-60) Master in physics (60 ECTS)

Optional courses (B0 : 60Cr)

The update course, worth a maximum of 60 credits, will be determined based on students¿ prior training. (B0 : 60Cr)

[...] Between 15 and 60 ECTS of courses from "Bachelier en sciences physiques"