

Cycle view of the study programme

B1 Or Th Pr Au Cr

Cours obligatoire de la finalité (B2 : 14Cr)

STRA0030-1 *Final thesis complement* - COLLÉGIALITÉ B2 TA - - - 14

Cours au choix de la finalité (B2 : 16Cr)

[...] With the jury's agreement, choose from the Uliège programme complementary courses which have not already been chosen for a total of 16 credits, with a maximum of 20 credits outside the course over the two blocks.

Cours obligatoires du tronc commun (B1 : 15Cr, B2 : 18Cr)

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

SMEM0028-1 *Final thesis* - COLLÉGIALITÉ B2 TA - - - 18

Cours au choix du tronc commun (B1 : 45Cr, B2 : 12Cr)

In agreement with the Jury, choose a subject among : (B1 : 45Cr, B2 : 12Cr)

Basic course (B1 : 45Cr, B2 : 12Cr)

SSTG0016-1 *Training sessions and personal work (english language)* - COLLÉGIALITÉ, ISLV B1 Q2 15 45 - 5

PHYS0983-1 *Seminars in advanced physics I (english language)*
- *Materials physics and biophysics* - COLLÉGIALITÉ B1 TA 10 - - 4
- *Atomic physics* - COLLÉGIALITÉ 10 - -
- *Physics of soft matter and complex systems* - COLLÉGIALITÉ 10 - -

PHYS0984-1 *Seminars in advanced physics II (english language)*
- *Materials physics and biophysics* - COLLÉGIALITÉ B2 TA 10 - - 4
- *Atomic physics* - COLLÉGIALITÉ 10 - -
- *Physics of soft matter and complex systems* - COLLÉGIALITÉ 10 - -

Prerequisite :
PHYS0983-1 - Séminaires de Physique avancée I

Choose courses in agreement with the jury for a total of 44 credits from among: (B1 : 36Cr, B2 : 8Cr)

Atomic and nuclear

PHYS0932-1 *Cold atoms and atomic clocks* - Thierry BASTIN - Q2 20 10 - 4
Corequisite :
PHYS0930-1 - Physique atomique

PHYS2027-2 *Ultracold atoms and Bose-Einstein condensates* - Peter SCHLAGHECK - Q2 25 - - 4
Corequisite :
PHYS0930-1 - Physique atomique
PHYS3021-1 - Mécanique quantique avancée

PHYS0235-2 *Quantum optics* - John MARTIN - Q2 20 10 - 4
Corequisite :
PHYS0930-1 - Physique atomique
PHYS3021-1 - Mécanique quantique avancée

PHYS0949-1 *Atomic structures modelling* - Pascal QUINET - Q2 10 10 - 4
Corequisite :
PHYS0930-1 - Physique atomique

PHYS0941-2 *Theoretical physics : Nuclei and particles* - JeanRené CUDELL - Q1 30 - - 4

PHYS3021-1 *Advanced quantum mechanics* - Thierry BASTIN, John MARTIN, - Q1 30 - - 4

Peter SCHLAGHECK

PHYS0997-1	<i>Quantum information and computation</i> (english language) - François DAMANET	-	Q1	30	-	-	4
PHYS3136-1	<i>Open quantum systems</i> (english language) - François DAMANET, John MARTIN - [10h Proj.] Corequisite : PHYS3021-1 - Mécanique quantique avancée PHYS0235-2 - Optique quantique	-	Q2	20	-	[+]	4

Soft Materials / Statistical Physics

PHYS0969-1	<i>Introduction to biophotonics</i> - Laurent DREESEN	-	Q2	20	10	-	4
PHYS0939-2	<i>Physics of non-linearities, chaos and fractals</i> - Nicolas VANDEWALLE Corequisite : PHYS0975-1 - Introduction à la matière molle et aux systèmes complexes	-	Q2	15	15	-	4
PHYS3020-1	<i>Discrete element method and soft materials</i> - Eric OPSOMER - [15h Proj.]	-	Q2	20	-	[+]	4
PHYS0948-1	<i>Microgravity</i> - Martial NOIRHOMME, Nicolas VANDEWALLE - [3d FW] Corequisite : PHYS0975-1 - Introduction à la matière molle et aux systèmes complexes	B2	Q2	10	20	[+]	4

Materials / Solid State

PHYS3003-1	<i>Physics of functional oxides</i> (english language) - Philippe GHOSEZ Corequisite : PHYS0974-1 - Physique des matériaux et biophysique	-	Q1	20	10	-	4
PHYS3004-1	<i>Physics of nanomaterials</i> (english language) - JeanYves RATY Corequisite : PHYS0974-1 - Physique des matériaux et biophysique	-	Q2	20	10	-	4
PHYS3023-1	<i>Physics of magnetic materials</i> (english language) - Eric BOUSQUET Corequisite : PHYS0974-1 - Physique des matériaux et biophysique	-	Q2	20	10	-	4
PHYS0981-1	<i>Quantum modelling of materials properties</i> (english language) - Philippe GHOSEZ Corequisite : PHYS0974-1 - Physique des matériaux et biophysique	-	Q1	20	10	-	4
CHIM0202-2	<i>Physical Chemistry</i> - Christian DAMBLON, Bernard LEYH	-	Q2	30	-	-	4
PHYS0987-1	<i>Physics of materials for energy</i> (english language) - Ngoc Duy NGUYEN - [15h Proj.]	-	Q1	20	-	[+]	4
PHYS0988-1	<i>Intrinsic and induced topological properties of matter</i> (english language) - Bertrand DUPÉ	-	Q2	20	10	-	4

Quantum Physics and Relativity

PHYS2012-1	<i>Relativistic quantum mechanics and relativistic statistics</i> - Peter SCHLAGHECK	-	Q1	20	5	-	4
SPAT0012-1	<i>General relativity</i> (english language) - Guillaume MAHLER	-	Q1	30	10	-	4

Experimental Physics

PHYS0250-2	<i>Experimental statistical physics</i> - Stéphane DORBOLO Corequisite : PHYS0975-1 - Introduction à la matière molle et aux systèmes complexes	-	Q2	10	20	-	4
PHYS3019-1	<i>Techniques of experimental physics</i> - Geoffroy LUMAY	-	Q2	20	20	-	4
PHYS0943-1	<i>Spectroscopy of electronic paramagnetic resonance</i> -	-	Q2	15	15	-	4

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Corequisite :

PHYS0974-1 - Physique des matériaux et biophysique

PHYS0095-1	<i>The physics of accelerators and vacuum technologies</i> - David STRIVAY	-	Q2	10	10	-	4
PHYS0968-1	<i>Signal processing</i> - Alejandro SILHANEK	-	Q2	25	20	-	4
PHYS3037-1	<i>Nanofabrication : principles and techniques</i> (english language) - Ngoc Duy NGUYEN, Alejandro SILHANEK	-	Q2	25	15	-	4
	Corequisite : PHYS0974-1 - Physique des matériaux et biophysique						
PHYS0999-1	<i>Digital creation in sciences</i> - Roland BILLEN, Valentin FISCHER, Pierre MATHONET, JeanChristophe MONBALIU, Eric PARMENTIER, Nicolas VANDEWALLE - [30h Proj.]	-	TA	10	-	[+]	5

Optics and Imaging

PHYS0942-3	<i>Ionising radiations and imaging</i> - Alain SERET	-	Q1	20	5	-	4
PHYS0938-1	<i>Physics and cultural heritage</i> - David STRIVAY	-	Q1	15	5	-	4
PHYS0048-2	<i>Coherent and incoherent optics</i> (english language) - <i>Coherent optics and lasers applications</i> - Serge HABRAKEN - <i>Laser physics</i> - Serge HABRAKEN	-	Q1	10	15	-	4
				5	5	-	
PHYS0048-3	<i>Coherent and incoherent optics, Instrumental optics I</i> (english language) - Serge HABRAKEN	-	Q1	20	15	-	4
PHYS0128-1	<i>Magnetic Resonance Imaging - the Basics</i> (english language) - Laurent LAMALLE - [3d FW]	-	Q1	15	-	[+]	2
PHYS0125-3	<i>Instrumental optics II</i> (english language) - Serge HABRAKEN	B2	Q2	25	15	-	4
	Prerequisite : PHYS0048-3 - Coherent and incoherent optics						

Applied physics

INFO0939-1	<i>High performance scientific computing</i> (english language) - Christophe GEUZAINÉ - [20h Proj.]	-	Q1	30	15	[+]	5
MECA0470-1	<i>New methods in computational mechanics and physics</i> (english language) - Maarten ARNST, Eric BÉCHET, Ludovic NOELS - [40h Proj.]	-	Q2	20	-	[+]	5
ELEN0062-1	<i>Introduction to machine learning</i> (english language) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	-	Q1	30	5	[+]	6

Didactics

PHYS0979-1	<i>Conceptual approach to basic physics</i> - Hervé CAPS, Maryse HOEBEKE	-	Q1	30	-	-	4
AESS0241-1	<i>Introduction to physics didactics</i> - Maryse HOEBEKE	-	Q1	20	-	-	4

[...] Up to 20 credits (or more, in agreement with the Jury) in the two blocks may also be chosen in another study field or institution

Course Medical Physics (B1 : 45Cr, B2 : 12Cr)

PHYS0952-3	<i>Imaging through ionising radiation</i> - Alain SERET	B1	Q1	25	5	-	4
	Corequisite : PHYS0990-1 - Dosimétrie PHYS0989-1 - Radiobiology						
PHYS0989-1	<i>Radiobiology</i> (english language) - N...	B1	Q2	10	-	-	2
	Corequisite : PHYS0990-1 - Dosimétrie PHYS0952-3 - Imagerie par radiations ionisantes						

PHYS0990-1	<i>Dosimetry</i> - Véronique BAART, Luca PELLEGRINI Corequisite : PHYS0989-1 - Radiobiology PHYS0952-3 - Imagerie par radiations ionisantes	B1	Q2	20	-	-	3
RADI2001-1	<i>Radioprotection: hygiene problems</i> Corequisite : PHYS0990-1 - Dosimétrie PHYS0989-1 - Radiobiology RADP0141-1 - Radioprotection BIOL0007-1 - Biologie tissulaire PHYS0952-3 - Imagerie par radiations ionisantes	B1	Q1	15	-	-	2
BIOL0007-1	<i>Tissue biology</i> - Marc THIRY	B1	Q1	15	25	-	4
PHYL0644-1	<i>Human Anatomy and Physiology</i>	B1	Q2	30	-	-	3
ANAT0222-1	<i>Elements of Radiology</i> - Paul MEUNIER, Luaba TSHIBANDA, Christophe VALKENBORGH	B1	Q1	10	5	-	2
CHIM0620-1	<i>Radiopharmaceutical Chemistry</i> - Thibault GENDRON	B1	Q1	20	10	-	3
PHYS0128-1	<i>Magnetic Resonance Imaging - the Basics</i> (english language) - Laurent LAMALLE - [3d FW] Corequisite : PHYS0930-1 - Physique atomique	B1	Q1	15	-	[+]	2
RADP0141-1	<i>Radioprotection</i> - Part a) <i>Radioprotection techniques and complements</i> - Véra PIRLET - Part b) <i>Legislation on radioprotection and the organisation of a radiotherapy, radiodiagnostic and nuclear medicine department</i> - Véra PIRLET	B1	Q2	30	15	-	6
SSTG0041-1	<i>Placement in medical radiophysics</i> - Véronique BAART, Claire BERNARD, Alain SERET - [12d Internship] Corequisite : PHYS0990-1 - Dosimétrie PHYS0989-1 - Radiobiology PHYS0952-3 - Imagerie par radiations ionisantes	B1	Q2	2	-	[+]	7
STAT0420-1	<i>Biostatistics 2</i> - AnneFrançoise DONNEAU	B1	Q1	15	15	-	3
PHYS0968-1	<i>Signal processing</i> - Alejandro SILHANEK	B1	Q2	25	20	-	4
QUAL0722-1	<i>Safety and quality assurance</i> (english language) - Edmond STERPIN Prerequisite : SSTG0041-1 - Stages en radiophysique médicale	B2	Q2	5	10	-	2
RADL0442-1	<i>Radiobiology and radiopathology elements</i> - Chantal HUMBLET, Philippe MARTINIVE Prerequisite : BIOL0007-1 - Biologie tissulaire PHYL0644-1 - Anatomie et physiologie humaines ANAT0222-1 - Eléments d'anatomie radiologique	B2	Q1	40	20	-	6
PHYS2024-1	<i>Transfer and co-registration of medical images</i> - Mohamed Ali BAHRI	B2	Q1	15	-	-	2
CHIM0621-2	<i>Production and application of radioelements</i> - Thibault GENDRON - [3d FW]	B2	Q2	15	-	[+]	2

Additional ECTS (max 15-60) Master in physics (120 ECTS)

Optional courses (B0 : 60Cr)

Study programmes 2024-2025
Faculty of Sciences
Master in physics, research focus

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"