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First Year

Compulsory courses

PHYS0240-2	<i>Biophysics</i> - Maryse HOEBEKE	Q2	30	15	-	5
PHYS0930-1	<i>Atomic Physics</i> - Thierry BASTIN	TA	30	15	-	5
PHYS0931-1	<i>Data processing</i> - Pierre MAGAIN		15	30	-	4

Optional courses

Choose one option from the following :

Fundamental 1 Option

SSTG0016-1	<i>Training sessions and personal work</i> - COLLÉGIALITÉ		15	45	-	6
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Choose courses, with the approval of the Jury, totalling 24 credits among :

PHYS0932-1	<i>Cold atoms and atomic clocks</i> - Thierry BASTIN	Q2	20	-	-	4
PHYS2027-2	<i>Ultracold atoms and Bose-Einstein condensates</i> - Peter SCHLAGHECK	Q2	25	-	-	4
PHYS0094-1	<i>Multiphase flows and dynamic interfaces</i> - Hervé CAPS	Q2	20	10	-	4
AESS0241-1	<i>Introduction to physics didactics</i> - Maryse HOEBEKE	Q2	20	-	-	4
SPAT0012-2	<i>General relativity, Part : Introduction</i> - Yves DE ROP	Q1	20	-	-	4
PHYS0934-1	<i>Coherent Optics and laser applications</i> - Serge HABRAKEN	Q1	15	20	-	4
PHYS0124-1	<i>Instrumental Optics I</i> - Serge HABRAKEN	Q1	20	15	-	4
PHYS0969-1	<i>Introduction to biophotonics</i> - Laurent DREESEN	Q2	20	10	-	4
PHYS0937-1	<i>Physical functional materials</i> (english language) - Philippe GHOSEZ		20	10	-	4
PHYS0938-1	<i>Physics and cultural heritage</i> - David STRIVAY	Q1	15	5	-	4
PHYS0939-2	<i>Physics of non-linearities, chaos and fractals</i> - Nicolas VANDEWALLE	Q2	15	15	-	4
PHYS2012-1	<i>Relativistic quantum mechanics and relativistic statistics</i> - Peter SCHLAGHECK	Q1	20	5	-	4
PHYS0250-2	<i>Experimental statistical physics</i> - Stéphane DORBOLO	TA	10	20	-	4
PHYS0941-2	<i>Theoretical physics : Nuclei and particles</i> - JeanRené CUDELL	Q1	30	-	-	4
PHYS0942-3	<i>Ionising radiations and imaging</i> - Alain SERET	Q1	20	5	-	4
PHYS0943-1	<i>Electronic paramagnetic resonance</i> - Maryse HOEBEKE	Q2	15	5	-	4
PHYS3012-2	<i>Electronic and vibrational spectroscopies</i> (english language) - Matthieu VERSTRAETE		15	15	-	4
PHYS0095-1	<i>The physics of accelerators and vacuum technologies</i> - David STRIVAY	Q2	10	10	-	4
CHIM0202-2	<i>Physical chemistry</i> - Christian DAMBLON, Bernard LEYH	Q2	30	-	-	4
SPAT0012-3	<i>General relativity, Part : Complement</i> - Yves DE ROP	TA	40	-	-	4
PHYS0945-1	<i>Complex fluids</i> - Nicolas VANDEWALLE	Q1	20	10	-	4
PHYS0235-2	<i>Introduction to quantum optics</i> - John MARTIN	Q2	25	-	-	4
PHYS0949-1	<i>Atomic structures modelling</i> - Pascal QUINET		10	10	-	4
PHYS0950-1	<i>Nanoparticles and low-dimensional systems</i> (english language) - JeanYves RATY	Q1	20	10	-	4
PHYS0125-3	<i>Instrumental Optics II</i> - Serge HABRAKEN	Q2	25	30	-	4
PHYS3017-1	<i>Physical science in an historical perspective</i> - Martine JAMINON - [1d Vis.]		30	-	[+]	4
PHYS3013-1	<i>Physical characterization of materials and interfaces</i> - Ngoc Duy NGUYEN	Q1	15	15	-	4
PHYS0970-1	<i>Physics of superconductors</i> - Alejandro SILHANEK	Q1	30	-	-	4
PHYS3019-1	<i>Techniques of experimental physics</i> - Geoffroy LUMAY	Q1	20	20	-	4
PHYS3020-1	<i>Digital tools of soft matter</i> - François LUDEWIG, Geoffroy LUMAY	Q2	15	15	-	4
PHYS3021-1	<i>Advanced quantum mechanics</i> - Thierry BASTIN, John MARTIN, Peter SCHLAGHECK	Q1	30	-	-	4
PHYS3022-1	<i>Theory of magnetism</i> (english language) - Eric BOUSQUET		20	10	-	4
[...]	Up to 8 ECTS can be chosen in another study path or in another institution					

Option Medical Physics 1

PHYS0952-3	<i>Fundamental problems in physics related to radiology, radiotherapy and nuclear medicine</i>	TA				6
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	- part : radiobiology - Christophe CHAMPION	10	-	-	
	- part : dosimetry - MarieThérèse HOORNAERT	20	-	-	
	- part : medical imaging - Alain SERET	25	5	-	
RADP0141-1	<i>Radioprotection</i>	Q2			5
	- Part a) Radioprotection techniques and complements - Véra PIRLET	30	15	-	
	- Part b) Legislation on radioprotection and the organisation of a radiotherapy, radiodiagnostic and nuclear medicine department - Véra PIRLET	10	-	-	
RADI2001-1	<i>Radioprotection : Hygiene problems, 1st year</i> - Roland HUSTINX	Q2	15	-	2
BIOL0007-1	<i>Tissue biology</i> - Marc THIRY	Q1	15	25	4
PHYL0644-1	<i>Human Anatomy and Physiology</i> - Pierre BONNET	Q2	30	-	3
ANAT0222-1	<i>Elements of Radiology</i> - N...	Q1	10	5	2
STAT0722-1	<i>Introduction to medical statistics</i> - Christophe PHILLIPS		10	5	2
CHIM0620-1	<i>Radiopharmaceutical Chemistry</i> - André LUXEN	Q1	20	10	3
PHYS0128-1	<i>Magnetic Resonance Imaging - the Basics</i> (english language) - Evelyne BALTEAU - [3d FW]	Q1	15	-	[+] 3

Choisir une 2e option parmi :

Fundamental 2 Option

Requisite

"Option fondamentale 1"

Choose courses, with the approval of the Jury, totalling 16 credits amongst :

PHYS0932-1	<i>Cold atoms and atomic clocks</i> - Thierry BASTIN	Q2	20	-	-	4
PHYS2027-2	<i>Ultracold atoms and Bose-Einstein condensates</i> - Peter SCHLAGHECK	Q2	25	-	-	4
PHYS0094-1	<i>Multiphase flows and dynamic interfaces</i> - Hervé CAPS	Q2	20	10	-	4
AESS0241-1	<i>Introduction to physics didactics</i> - Maryse HOEBEKE	Q2	20	-	-	4
SPAT0012-2	<i>General relativity, Part : Introduction</i> - Yves DE ROP	Q1	20	-	-	4
PHYS0934-1	<i>Coherent Optics and laser applications</i> - Serge HABRAKEN	Q1	15	20	-	4
PHYS0124-1	<i>Instrumental Optics I</i> - Serge HABRAKEN	Q1	20	15	-	4
PHYS0969-1	<i>Introduction to biophotonics</i> - Laurent DREESEN	Q2	20	10	-	4
PHYS0937-1	<i>Physical functional materials</i> (english language) - Philippe GHOSEZ		20	10	-	4
PHYS0938-1	<i>Physics and cultural heritage</i> - David STRIVAY	Q1	15	5	-	4
PHYS0939-2	<i>Physics of non-linearities, chaos and fractals</i> - Nicolas VANDEWALLE	Q2	15	15	-	4
PHYS2012-1	<i>Relativistic quantum mechanics and relativistic statistics</i> - Peter SCHLAGHECK	Q1	20	5	-	4
PHYS0250-2	<i>Experimental statistical physics</i> - Stéphane DORBOLO	TA	10	20	-	4
PHYS0941-2	<i>Theoretical physics : Nuclei and particles</i> - JeanRené CUDELL	Q1	30	-	-	4
PHYS0942-3	<i>Ionising radiations and imaging</i> - Alain SERET	Q1	20	5	-	4
PHYS0943-1	<i>Electronic paramagnetic resonance</i> - Maryse HOEBEKE	Q2	15	5	-	4
PHYS3012-2	<i>Electronic and vibrational spectroscopies</i> (english language) - Matthieu VERSTRAETE		15	15	-	4
PHYS0095-1	<i>The physics of accelerators and vacuum technologies</i> - David STRIVAY	Q2	10	10	-	4
CHIM0202-2	<i>Physical chemistry</i> - Christian DAMBLON, Bernard LEYH	Q2	30	-	-	4
SPAT0012-3	<i>General relativity, Part : Complement</i> - Yves DE ROP	TA	40	-	-	4
PHYS0945-1	<i>Complex fluids</i> - Nicolas VANDEWALLE	Q1	20	10	-	4
PHYS0235-2	<i>Introduction to quantum optics</i> - John MARTIN	Q2	25	-	-	4
PHYS0949-1	<i>Atomic structures modelling</i> - Pascal QUINET		10	10	-	4
PHYS0950-1	<i>Nanoparticles and low-dimensional systems</i> (english language) - JeanYves RATY	Q1	20	10	-	4
PHYS0125-3	<i>Instrumental Optics II</i> - Serge HABRAKEN	Q2	25	30	-	4
PHYS3017-1	<i>Physical science in an historical perspective</i> - Martine JAMINON - [1d Vis.]		30	-	[+] 4	
PHYS3013-1	<i>Physical characterization of materials and interfaces</i> - Ngoc Duy NGUYEN	Q1	15	15	-	4
PHYS0970-1	<i>Physics of superconductors</i> - Alejandro SILHANEK	Q1	30	-	-	4
PHYS3019-1	<i>Techniques of experimental physics</i> - Geoffroy LUMAY	Q1	20	20	-	4
PHYS3020-1	<i>Digital tools of soft matter</i> - François LUDEWIG, Geoffroy LUMAY	Q2	15	15	-	4
PHYS3021-1	<i>Advanced quantum mechanics</i> - Thierry BASTIN, John MARTIN, Peter SCHLAGHECK	Q1	30	-	-	4
PHYS3022-1	<i>Theory of magnetism</i> (english language) - Eric BOUSQUET		20	10	-	4

Option Medical Physics 2

SSTG0041-1	<u>Requisite</u> <i>Placement in medical radiophysics</i> - Claire BERNARD, MarieThérèse HOORNAERT, Alain SERET - [12d Internship]	"Option physique médicale 1"	Q2	2	-	[+]	16
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Second Year

Compulsory course

SMEM0028-1	<i>Final thesis</i> - COLLÉGIALITÉ		TA	-	-	-	18
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Optional courses

Choose one option from the following :

Fundamental 3 Option

Prerequisite "Option fondamentale 2"

Choose, in agreement with the Jury, courses not taken in the 1st year, totalling 12 ECTS from the following :

PHYS0932-1	<i>Cold atoms and atomic clocks</i> - Thierry BASTIN		Q2	20	-	-	4
PHYS2027-2	<i>Ultracold atoms and Bose-Einstein condensates</i> - Peter SCHLAGHECK		Q2	25	-	-	4
PHYS0094-1	<i>Multiphase flows and dynamic interfaces</i> - Hervé CAPS		Q2	20	10	-	4
AESS0241-1	<i>Introduction to physics didactics</i> - Maryse HOEBEKE		Q2	20	-	-	4
SPAT0012-2	<i>General relativity, Part : Introduction</i> - Yves DE ROP		Q1	20	-	-	4
PHYS0934-1	<i>Coherent Optics and laser applications</i> - Serge HABRAKEN		Q1	15	20	-	4
PHYS0124-1	<i>Instrumental Optics I</i> - Serge HABRAKEN		Q1	20	15	-	4
PHYS0969-1	<i>Introduction to biophotonics</i> - Laurent DREESEN		Q2	20	10	-	4
PHYS0937-1	<i>Physical functional materials</i> (english language) - Philippe GHOSEZ			20	10	-	4
PHYS0938-1	<i>Physics and cultural heritage</i> - David STRIVAY		Q1	15	5	-	4
PHYS0939-2	<i>Physics of non-linearities, chaos and fractals</i> - Nicolas VANDEWALLE		Q2	15	15	-	4
PHYS2012-1	<i>Relativistic quantum mechanics and relativistic statistics</i> - Peter SCHLAGHECK		Q1	20	5	-	4
PHYS0250-2	<i>Experimental statistical physics</i> - Stéphane DORBOLO		TA	10	20	-	4
PHYS0941-2	<i>Theoretical physics : Nuclei and particles</i> - JeanRené CUDELL		Q1	30	-	-	4
PHYS0942-3	<i>Ionising radiations and imaging</i> - Alain SERET		Q1	20	5	-	4
PHYS0943-1	<i>Electronic paramagnetic resonance</i> - Maryse HOEBEKE		Q2	15	5	-	4
PHYS3012-2	<i>Electronic and vibrational spectroscopies</i> (english language) - Matthieu VERSTRAETE			15	15	-	4
PHYS0095-1	<i>The physics of accelerators and vacuum technologies</i> - David STRIVAY		Q2	10	10	-	4
CHIM0202-2	<i>Physical chemistry</i> - Christian DAMBLON, Bernard LEYH		Q2	30	-	-	4
SPAT0012-3	<i>General relativity, Part : Complement</i> - Yves DE ROP		TA	40	-	-	4
PHYS0945-1	<i>Complex fluids</i> - Nicolas VANDEWALLE		Q1	20	10	-	4
PHYS0235-2	<i>Introduction to quantum optics</i> - John MARTIN		Q2	25	-	-	4
PHYS0948-1	<i>Microgravity</i> - Hervé CAPS, Nicolas VANDEWALLE - [3d FW]		Q2	10	20	[+]	4
PHYS0949-1	<i>Atomic structures modelling</i> - Pascal QUINET			10	10	-	4
PHYS0950-1	<i>Nanoparticles and low-dimensional systems</i> (english language) - JeanYves RATY		Q1	20	10	-	4
PHYS0125-3	<i>Instrumental Optics II</i> - Serge HABRAKEN		Q2	25	30	-	4
PHYS3017-1	<i>Physical science in an historical perspective</i> - Martine JAMINON - [1d Vis.]			30	-	[+]	4
PHYS3013-1	<i>Physical characterization of materials and interfaces</i> - Ngoc Duy NGUYEN		Q1	15	15	-	4
PHYS0970-1	<i>Physics of superconductors</i> - Alejandro SILHANEK		Q1	30	-	-	4
PHYS3019-1	<i>Techniques of experimental physics</i> - Geoffroy LUMAY		Q1	20	20	-	4
PHYS3020-1	<i>Digital tools of soft matter</i> - François LUDEWIG, Geoffroy LUMAY		Q2	15	15	-	4
PHYS3021-1	<i>Advanced quantum mechanics</i> - Thierry BASTIN, John MARTIN, Peter SCHLAGHECK		Q1	30	-	-	4
PHYS3022-1	<i>Theory of magnetism</i> (english language) - Eric BOUSQUET			20	10	-	4

Option: Medical Physics 3

QUAL0722-1	<u>Prerequisite</u> <i>Safety and quality assurance</i> - Eric LENAERTS	"Option Physique médicale 2"	Q1	5	10	-	2
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RADL0442-1	<i>Radiobiology and radiopathology elements</i> - Chantal HUMBLET, Philippe MARTINIVE	Q2	40	20	-	6
PHYS2024-1	<i>Transfer and co-registration of medical images</i> - Mohamed Ali BAHRI		15	-	-	2
CHIM0621-2	<i>Production and application of radioelements</i> - André LUXEN - [3d FW]	Q2	15	-	[+]	2
General courses						
CHIM9227-1	<i>Quantum Chemistry</i> (english language) - Françoise REMACLE	Q1	30	10	-	4
PHYS3003-1	<i>Functional Materials : theory and modeling</i> (english language) - Philippe GHOSEZ		20	10	-	4
CHIM9228-1	<i>Macromolecular Chemistry</i> (english language) - Christine JÉRÔME	Q1	20	15	-	4
CHIM9256-1	<i>Advanced solid state chemistry</i> - Bénédicte VERTRUYEN	Q1	30	-	-	4
CHIM9230-1	<i>Nanomaterials, (electro)synthesis and applications</i> (english language) - Christophe DETREMBLEUR, Christine JÉRÔME	Q1	30	-	-	4

Specialised courses, including tutorial and practice

Courses totaling 13 ECTS have to be chosen among :

PHYS3014-1	<i>Physics and chemistry of materials : complements</i> - COLLÉGIALITÉ	Q1	20	-	-	2
PHYS3004-1	<i>Nanomaterials : theory and modeling</i> (english language) - JeanYves RATY	Q1	20	10	-	4
PHYS3015-1	<i>Electronic and vibrational spectroscopies</i> - Matthieu VERSTRAETE		15	15	-	4
CHIM9231-1	<i>Characterization of Biomaterials</i> (english language) - Edwin DE PAUW, MarieClaire GILLET	Q1	15	15	-	4
CHIM9232-1	<i>Biohybrids: theory and modeling</i> (english language) - Françoise REMACLE	Q1	30	-	-	4
CHIM9233-1	<i>Molecular logic</i> (english language) - Françoise REMACLE	Q1	15	-	-	2
CHIM9234-1	<i>Polymers and environment</i> - Philippe LECOMTE		15	-	-	2
CHIM9257-1	<i>Introduction to solid state NMR</i> - Christian DAMBLON, Philippe LECOMTE, Bénédicte VERTRUYEN		15	-	-	2
CHIM9266-1	<i>Characterization of nanostructures by scanning probe techniques</i> (english language) - AnneSophie DUWEZ	Q1	15	-	-	2
PHYS3016-1	<i>Physical characterization of materials and interfaces</i> (english language) - Ngoc Duy NGUYEN	Q1	15	15	-	4
PHYS0096-1	<i>Physics of superconductors</i> - Alejandro SILHANEK	Q1	30	-	-	4
PHYS3023-1	<i>Theory of magnetism</i> (english language) - Eric BOUSQUET		20	10	-	4

Compulsory courses

STRA0030-1	<i>Final thesis complement</i> - COLLÉGIALITÉ	TA	-	-	-	11
PHYS0963-1	<i>Seminars</i> - COLLÉGIALITÉ		-	-	-	3

Optional courses

[...] In agreement with the Jury, choose from the ULg course programme complementary courses which have not yet been followed, for a total of 16 credits, a maximum of 12 of which must be outside the subject.