

A single year

For further information, contact :

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Preparatory courses and/or prerequisite courses

En fonction de la formation antérieure de l'étudiant et en accord avec le Jury, choisir, si nécessaire, des cours pour un maximum de 9 crédits parmi le programme des institutions organisant le master complémentaire

Compulsory courses

NANO0001-1	<i>Seminars on the ethnical and socio-economic aspects of nanotechnology</i> - COLLÉGIALITÉ	15	15	-	3
SMEM0038-1	<i>Final thesis</i> - COLLÉGIALITÉ	TA	-	-	27

Optional courses

[...] En accord avec le Jury, choisir des cours, dont au moins un dans chacune des quatre premières rubriques ci-dessous, pour un total de 21 à 30 crédits :

A. Fundamental phenomena at the nanoscale

Courses organised at the UCL

HULG2105-1	<i>Nano-electronics</i> - Vincent BAYOT, Denis FLANDRE, JeanPierre RASKIN	30	30	-	5
HULG2106-1	<i>Physics of nanostructures</i> - JeanChristophe CHARLIER, Xavier GONZE, Luc PIRAUX	37,5	22,5	-	5

Courses organised at the ULB

HULG0437-1	<i>Chemistry of interfaces and nanostructures</i> - N...	24	12	-	3
HULG0438-1	<i>Nanochemistry and nanotechnology</i> (english language) - N...	24	24	-	4
HULG2079-1	<i>Molecular motors and stochastic processes</i> - Pierre GASPARD	-	-	-	3
HULG2107-1	<i>Nanophysics</i> - Pierre GASPARD, Marc HOU	24	24	-	5

Courses organised at the ULg

CHIM0646-1	<i>Physical chemistry of nanostructures</i> (english language) - AnneSophie DUWEZ	Q1	15	-	2
BIOC0724-1	<i>Chemistry of biological macromolecules</i> - Moreno GALLEN, André MATAGNE	Q2	20	-	2
PHYS0096-1	<i>Physics of superconductors</i> - Alejandro SILHANEK	Q1	30	-	4
ELEN0069-1	<i>Nanoelectronics / Optoelectronics</i> - Benoît VANDERHEYDEN	Q2	30	30	5
PHYS3003-1	<i>Functional Materials : theory and modeling</i> (english language) - Philippe GHOSEZ		20	10	4

Courses organised at the UMons

HULG0439-1	<i>Morphogenesis and instability</i> - N...		30	15	5
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Courses organised at the UNamur

HULG0440-1	<i>Supramolecular chemistry</i> - N...		22,5	-	3
HULG0441-1	<i>Advanced theoretical chemistry</i> - N...		37,5	30	6

B. Nanofabrication, nanomanipulation, nanosynthesis

Courses organised at the UCL

HULG2108-1	<i>Techniques of micro-and nanofabrication</i> - Vincent BAYOT, Denis FLANDRE, Laurent FRANCIS, JeanPierre RASKIN	30	30	-	5
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Courses organised at the ULB

HULG2115-1	<i>Microfabrication processes</i> - N...	24	12	-	3
HULG2094-1	<i>Nanostructured materials</i> - MariePaule DEPLANCKE, Stéphane GODET	-	-	-	2

Course organised at the ULg

CHIM0088-1	<i>Nanomaterials, principles of synthesis and application</i> - Christophe DETREMBLEUR	Q1	15	-	2
MECA0009-1	<i>Introduction to microtechnology</i> (english language) - Tristan GILET		30	30	5
CHIM0072-1	<i>Engineering of nanomaterials and divided materials</i> - Benoît HEINRICHS, Stéphanie LAMBERT	Q1	15	15	3

Course organised at the UMons

HULG2095-1	<i>Polymer nanocomposite materials</i> - N...		15	15	3
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C. Characterization of nanostructures

Courses organised at the UCL

HULG0442-1	<i>Advanced transistors</i> (english language) - N...		30	30	5
HULG2096-1	<i>Characterization of materials surface</i> - Yves DUFRÈNE, Christine DUPONT, Eric GAIGNEAUX		52,5	-	5

HULG2097-1	<i>Analysis and processing of solid surfaces</i> - Patrick BERTRAND, Bernard NYSTEN		37,5	15	-	5
Courses organised at the ULB						
HULG0443-1	<i>Surface analysis of materials</i> (english language) - N...		36	-	-	4
HULG2082-1	<i>Microscopy and microanalysis, high resolution</i> - Norbert KRUSE		24	-	-	2
Courses organised at the ULg						
NANO0002-1	<i>Atomic force microscopy and related techniques</i> - AnneSophie DUWEZ	Q1	10	-	-	2
PHYS3013-1	<i>Physical characterization of materials and interfaces</i> - Ngoc Duy NGUYEN	Q1	15	15	-	4
CHIM9266-1	<i>Characterization of nanostructures by scanning probe techniques</i> (english language) - AnneSophie DUWEZ	Q1	15	-	-	2
CHIM9231-1	<i>Characterization of Biomaterials</i> (english language) - Edwin DE PAUW, MarieClaire GILLET	Q1	15	15	-	4
PHYS3012-2	<i>Electronic and vibrational spectroscopies</i> (english language) - Matthieu VERSTRAETE		15	15	-	4
Courses organised at the UMons						
HULG2083-1	<i>Local probe microscopy</i> - Roberto LAZZARONI, Philippe LECLÈRE		15	15	-	3
Courses organised at the UNamur						
HULG0444-1	<i>Optical spectroscopies of surfaces and nanostructures</i> - N...		22	8	-	4
HULG2081-1	<i>Electron microscopy, diffraction and EELS at the nanoscale</i> - N...		7,5	7,5	-	3
D. Simulation at the nanoscale						
Course organised at the UCL						
HULG2117-1	<i>Atomistic and nanoscopic simulations</i> - JeanChristophe CHARLIER, Xavier GONZE		30	30	-	5
Courses organised at the ULg						
CHIM0090-1	<i>Theory and modeling of hybrid molecular complexes</i> - Françoise REMACLE	Q1	15	-	-	3
PHYS0046-2	<i>Quantum physics and applications to Condensed Matter</i> - Philippe GHOSEZ, Matthieu VERSTRAETE		30	30	-	5
PHYS3004-1	<i>Nanomaterials : theory and modeling</i> (english language) - JeanYves RATY	Q1	20	10	-	4
Course organised at the UMons						
HULG0445-1	<i>Molecular modeling in chemistry</i> - N...		15	15	-	4
Course organised at the UNamur						
HULG0446-1	<i>Simulation in materials physics</i> - N...		15	15	-	4
E. Miscellaneous						
Courses organised at the UCL						
HULG2085-1	<i>Nanobiotechnology</i> - N...		30	-	-	3
HULG0447-1	<i>Special electronic devices</i> (english language) - N...		30	30	-	5
HULG2111-1	<i>Design of Micro and Nanosystems</i> - Denis FLANDRE, Laurent FRANCIS, Thomas PARDOEN, JeanPierre RASKIN		30	30	-	5
HULG2086-1	<i>Macromolecular Nanotechnology</i> - Sophie DEMOUSTIER, JeanFrançois GOHY, Alain JONAS, Bernard NYSTEN		45	15	-	5
HULG2112-1	<i>Transport phenomena in solids and nanostructures</i> - JeanChristophe CHARLIER, Xavier GONZE, Luc PIRAUX		30	30	-	5
HULG2113-1	<i>Lasers and Applications</i> - N...	Q2	45	15	-	6
HULG2090-1	<i>Chemometrics</i> - Bernadette GOVAERTS		22,5	15	-	3
HULG2104-1	<i>Principles of heterogeneous catalysis</i> - Eric GAIGNEAUX		52,5	-	-	5
HULG2091-1	<i>Statistical Quality Control</i> - Anne DE FRENNE, Bernadette GOVAERTS		15	5	-	3
Courses organised at the ULB						
HULG0448-1	<i>Solid state properties of polymers</i> (english language) - N...		36	-	-	4
HULG0449-1	<i>Micro- and nanobiotechnology</i> (english language) - N...		13	26	-	3
HULG0450-1	<i>(Multi)functional polymers</i> (english language) - N...		12	24	-	3
HULG2114-1	<i>Quantum theory of solids and surfaces</i> - N...		24	-	-	2
HULG0451-1	<i>Molecular engineering applied to the biomedical field</i> - N...		24	-	-	2
HULG0452-1	<i>Molecular and biomolecular engineering</i> (english language) - N...		24	12	-	3
HULG2116-1	<i>Micro tech components</i> - N...		24	24	-	4
Courses organised at the ULg						
PHYS0945-1	<i>Complex fluids</i> - Nicolas VANDEWALLE	Q1	20	10	-	4
CHIM9217-1	<i>Application of nanotechnology to develop new medicine</i> - Brigitte EVRARD, Géraldine PIEL		10	-	-	1
MECA0008-1	<i>Microfluidics</i> (english language) - Tristan GILET	Q1	30	30	-	5
PHYS3023-1	<i>Theory of magnetism</i> (english language) - Eric BOUSQUET		20	10	-	4
CHIM0654-1	<i>Molecular devices and molecular machines</i> - AnneSophie DUWEZ	Q2	15	-	-	2
ELEN0038-1	<i>Integrated electronics of microsystems</i> (english language) - Michael KRAFT		30	30	-	5

CHIM9233-1	<i>Molecular logic</i> (english language) - Françoise REMACLE	Q1	15	-	-	2
CHIM0433-1	<i>Proteomics</i> - Edwin DE PAUW, Marianne FILLET, Pierre LEPRINCE	Q2	20	10	-	3
CHIM9216-1	<i>The contribution of electrochemistry to macromolecular chemistry</i> - Christine JÉRÔME	Q2	10	-	-	1
BIOC0720-1	<i>Structure of biological macromolecules</i> - Paulette CHARLIER - [5h Mon. WS]	Q1	15	20	[+]	4
CHIM0637-3	<i>Chemistry of materials, Inorganic materials</i> (english language) - Bénédicte VERTRUYEN	Q1	20	-	-	2
Courses organised at the UMons						
HULG0453-1	<i>Nanotechnology of the controlled-release formulations</i> - N...		15	-	-	2
HULG2089-1	<i>Introduction to Nanotechnology</i> - Michel WAUTELET		15	-	-	2
Course organised at the UNamur						
HULG2084-1	<i>Intermolecular interactions</i> - N...		7,5	7,5	-	3