Cycle view of the study programme

		Bl	Or	Th	Pr	Au	Cr
Compulsory courses (B2 : 27Cr)							
SMEM0029-1	*Final thesis* - COLLÉGIALITÉ	B2	TA	-	-	-	**15**
SPAT0070-1	*Final thesis complement* - COLLÉGIALITÉ	B2	TA	-	-	-	**12**
Optional courses (B1 : 60Cr, B2 : 33Cr)							
Select, in agreement with the Jury, courses totalling 63 ECTS from the lists below, including at least one of these first two courses of each list : (B1 : 60Cr, B2 : 3Cr)							
Space sciences : interdisciplinary courses							
SPAT0017-1	*Seminars on topical issues* (english language) - Christian BARBIER, JeanRené CUDELL, Benoît HUBERT, Damien HUTSEMEKERS, Charles TROUPIN	B1	TA	-	30	-	**3**
SPAT0035-1	*Space exploration* (english language) - Grégor RAUW	B1	Q1	30	10	-	**4**
SPAT0001-1	*Plasma physics* (english language) - Benoît HUBERT	B1	Q2	25	5	-	**4**
SPAT0018-1	*Ideas evolution in astronomy* - Yaël NAZÉ (Even years)	B1	Q1	14	6	-	**2**
SPAT0036-1	*Celestial mechanics and space trajectories* (english language) - Grégor RAUW	B1	Q1	25	10	-	**4**
SPAT0039-1	*Spectroscopy in astrophysics and geophysics* (english language) - Jerôme LOICQ	B1	Q1	20	10	-	**3**
SPAT0040-1	*Fluid mechanics* (english language) - Pierre DAUBY	B1	Q1	20	10	-	**3**
Cosmology and astroparticle							
SPAT0021-1	*Introduction to astroparticles* (english language) - JeanRené CUDELL	B1	Q2	30	-	-	**3**
SPAT0012-1	*General relativity, Part 1: Introduction* - Yves DE ROP - Suppl : Andrea CAMPOLEONI	B1	Q1	20	-	-	**3**
SPAT0010-1	*Theoretical physical cosmology* (english language) - Christian BARBIER, Michel TYTGAT **Corequisite :** SPAT0012-1 - Relativité générale SPAT0021-1 - Introduction to astroparticles	B1	Q2	40	-	-	**4**
SPAT0012-2	*General relativity, Part 2: Mathematics methods* - Yves DE ROP **Corequisite :** SPAT0012-1 - Relativité générale	B1	Q1	20	-	-	**2**
SPAT0012-3	*General relativity, Part 3: supplement* - Yves DE ROP - Suppl : Andrea CAMPOLEONI **Corequisite :** SPAT0012-2 - Relativité générale	B1	Q2	20	-	-	**2**
SPAT0160-1	*Particles ans astroparticles* (english language) - JeanRené CUDELL **Corequisite :** SPAT0162-1 - Quantum field theory	B1	Q1	20	10	-	**4**
SPAT0260-1	*Particles and gravitation* (english language) - JeanRené CUDELL **Corequisite :** SPAT0012-2 - Relativité générale SPAT0012-1 - Relativité générale SPAT0162-1 - Quantum field theory	B1	Q2	10	5	-	**2**
SPAT0162-1	*Quantum field theory* (english language) - JeanRené CUDELL **Corequisite :** SPAT0012-1 - Relativité générale	B1	Q2	20	10	-	**4**
PHYS2012-1	*Relativistic quantum mechanics and relativistic statistics* - Peter SCHLAGHECK	B1	Q1	20	5	-	**3**
SPAT0075-1	*Gravitational waves* (english language) - JeanRené CUDELL	B1	Q1	10	5	-	**2**

Corequisite :
SPAT0012-3 - Relativité générale
SPAT0012-2 - Relativité générale
SPAT0012-1 - Relativité générale

Astrophysics

SPAT0033-1	*Astrophysics* (english language) - Pierre MAGAIN	B1	Q1	35	15	-	**5**
SPAT0044-1	*Stellar structure and evolution I* (english language) - MarcAntoine DUPRET	B1	Q1	35	-	-	**3**
SPAT0005-1	*Stellar stability and asteroseismology* (english language) - MarcAntoine DUPRET **Corequisite :** SPAT0040-1 - Fluid mechanics SPAT0044-1 - Stellar structure and evolution I	B1	Q2	30	10	-	**4**
SPAT0006-1	*Stellar atmospheres* (english language) - Grégor RAUW **Corequisite :** SPAT0039-1 - Spectroscopy in astrophysics and geophysics	B1	Q2	20	10	-	**3**
SPAT0007-2	*Variable stars* (english language) - Grégor RAUW (Odd years)	B1	Q1	20	10	-	**3**
SPAT0008-1	*Interstellar medium* (english language) - Damien HUTSEMEKERS, Yaël NAZÉ (Odd years)	B1	Q1	20	10	-	**3**
SPAT0009-1	*High-energy astrophysics* (english language) - Grégor RAUW	B1	Q1	25	5	-	**3**
SPAT0011-1	*Extragalactic astrophysics* (english language) - Pierre MAGAIN **Corequisite :** SPAT0033-1 - Astrophysics	B1	Q2	20	10	-	**3**
SPAT0020-2	*Astrochemistry* (english language) - Michaël DE BECKER	B1	Q1	30	10	-	**4**
SPAT0045-1	*Stellar structure and evolution II* (english language) - MarcAntoine DUPRET **Corequisite :** SPAT0044-1 - Stellar structure and evolution I	B1	Q2	20	20	-	**3**
SPAT0069-1	*Radio astrophysics* (english language) - Michaël DE BECKER	B1	Q2	15	15	-	**4**

Planetary science and planetary systems

SPAT0055-1	*Atmosphere of the Earth* (english language) - Denis GRODENT	B1	Q1	45	-	-	**4**
SPAT0063-1	*Introduction to exoplanetology* (english language) - Michaël GILLON **Corequisite :** SPAT0033-1 - Astrophysics	B1	Q2	20	10	-	**4**
SPAT0023-1	*Terrestrial magnetosphere and polar lights* (english language) - Benoît HUBERT	B1	Q2	30	10	-	**4**
SPAT0028-2	*Planetary magnetospheres and aurorae* (english language) - Denis GRODENT	B1	Q2	20	10	-	**3**
SPAT0029-1	*Space environment* (english language) - Denis GRODENT	B1	Q1	15	15	-	**3**
SPAT0043-1	*The small bodies of the solar system* (english language) - Emmanuel JEHIN	B1	Q2	15	5	-	**2**
SPAT0056-1	*Planetary and exoplanetary atmospheres* (english language) - Denis GRODENT **Corequisite :** SPAT0055-1 - Atmosphere of the Earth	B1	Q2	30	15	-	**5**
GEOL0263-1	*Astrobiology* (english language) - Vincianne DEBAILLE, Véronique DEHANT, Emmanuelle JAVAUX, Yaël NAZÉ, Annick WILMOTTE	B1	Q2	45	-	-	**5**
GEOL0304-1	*Introduction to neotectonics, seismology and physical volcanology* (english language) - Clara BRERETON, HansBalder HAVENITH - [2d FW]	B1	Q1	25	15	[+]	**5**

SPAT0066-1	*Internal geophysics of the Earth and terrestrial bodies of the solar system* (english language) - Véronique DEHANT (Odd years)	B1	Q1	25	-	-	**2**
Climate, environment and oceanography							
SPAT0027-3	*Climate change and impacts* (english language) - Louis FRANÇOIS, Guy MUNHOVEN	B1	TA	15	45	-	**5**
OCEA0071-1	*Geophysical fluid dynamics - part 1* (english language) - JeanMarie BECKERS	B1	Q2	30	15	-	**6**
SPAT0024-2	*Meteorology* - *Part 1* - Louis FRANÇOIS - *Part 2* - Louis FRANÇOIS	B1	Q1 20 20	 10 10	 - -		**6**
SPAT0025-1	*Environmental modelling* (english language) - Louis FRANÇOIS, Guy MUNHOVEN	B1	Q2	20	10	-	**4**
SPAT0026-1	*Paleoenvironment and evolution of the Earth system* (english language) - Louis FRANÇOIS	B1	Q2	30	10	-	**4**
SPAT0032-2	*Remote sensing* (english language) - Christian BARBIER	B1	Q1	30	30	-	**6**
SPAT0058-1	*Observing Earth from space* (english language) - Christian BARBIER	B1	Q2	15	-	-	**2**
GEOG0037-1	*Global Navigation Satellite Systems* - René WARNANT	B1	Q1	40	15	-	**5**
GEOG0038-1	*Advanced GNSS* - René WARNANT **Corequisite :** GEOG0037-1 - Global Navigation Satellite Systems	B1	Q1	25	30	-	**5**
OCEA0045-1	*Statistical methods of analysis of oceanographic data* (english language) - Aida ALVERA AZCARATE	B1	Q1	20	10	-	**3**
OCEA0087-1	*Satellite oceanography* (english language) - Aida ALVERA AZCARATE	B1	Q1	15	15	-	**3**
OCEA0072-1	*Geophysical fluid dynamics - part 2* (english language) - JeanMarie BECKERS **Corequisite :** OCEA0071-1 - Geophysical fluid dynamics - part 1	B1	Q1	30	15	-	**5**
OCEA0081-1	*Numerical Methods in Geophysics - Part 2* (english language) - JeanMarie BECKERS	B1	Q1	15	30	-	**5**
Instrumentation and methods for space siences							
SPAT0068-1	*Astrophysical observations* (english language) - Emmanuel JEHIN - [5d FW]	B1	Q2	15	15	[+]	**5**
SPAT0002-1	*Programming techniques, numerical methods and machine learning* (english language) - Dominique SLUSE	B1	Q1	15	15	-	**3**
PHYS0048-3	*Coherent and incoherent optics, Instrumental optics I* (english language) - Serge HABRAKEN	B1	Q1	20	15	-	**4**
SPAT0014-1	*Introduction to time series analysis* (english language) - Eric GOSSET	B1	Q2	20	15	-	**4**
SPAT0015-1	*Signal acquisition and processing : application to embedded systems* - Christian SERVAIS (Even years)	B1	Q2	10	30	-	**4**
AERO0018-3	*Space experiment development* (english language) - Denis GRODENT, Jerôme LOICQ	B1	Q2	26	26	-	**5**
PHYS0125-3	*Instrumental optics II* (english language) - Serge HABRAKEN **Corequisite :** PHYS0048-3 - Coherent and incoherent optics	B1	Q2	25	15	-	**4**
PHYS0931-1	*Data processing* - Pierre MAGAIN	B1	Q2	15	30	-	**4**
SPAT0067-1	*Atmospheric and adaptive optics* (english language) - Olivier ABSIL **Corequisite :**	B1	Q2	15	5	-	**2**

PHYS0048-3 - Coherent and incoherent optics

[...] In agreement with the jury, chose a course that hasn't already been chosen worth 3 credits from the lists offered in Block 1

Choose one focus from the following : (B2 : 1Nbr)

Research Focus (B2 : 30Cr)

Choose courses totalling 30 ECTS out of the following : (B2 : 30Cr)

[...] Choose courses not already chosen for a total of 30 credits from the ULiège Faculty of Science or Applied Science course programme (including the ULiège Master of Civil Engineering in Aerospace programme), from the list below and/or from another institution¿s course programme. These choices must be backed up by a coherent choice of curriculum, approved by the Jury

SSTG0043-1	*Placement* - Christian BARBIER, Yaël NAZÉ, Grégor RAUW	B2	TA	-	140	-	**10**

Professional Focus (B2 : 30Cr)

Compulsory courses (B2 : 20Cr)

SSTG0052-1	*Internship in industry or agency* (english language) - Christian BARBIER	B2	TA	-	70	-	**5**
SPAT0072-1	*Seminars on space activities* (english language) - Christian BARBIER	B2	Q1	30	-	-	**5**
GEST3162-1	*Principles of management* (english language) - Michael GHILISSEN, François PICHAULT	B2	Q1	25	25	-	**5**
SPAT0073-1	*Space optics* (english language) - Jerôme LOICQ	B2	Q1	30	10	-	**5**

Optional courses (B2 : 10Cr)

In agreement with the jury, chose courses that haven't already been chosen for a total of 10 credits from the list below: (B2 : 10Cr)

SPAT0074-1	*Internship complement* (english language) - Michaël DE BECKER	B2	TA	-	40	-	**3**
ELEN0008-1	*Principles of analog and digital telecommunications systems* - Marc VAN DROOGENBROECK	B2	Q2	26	26	-	**5**
AERO0018-3	*Space experiment development* (english language) - Denis GRODENT, Jerôme LOICQ	B2	Q2	26	26	-	**5**
GEOG0037-1	*Global Navigation Satellite Systems* - René WARNANT	B2	Q1	40	15	-	**5**
SPAT0032-2	*Remote sensing* (english language) - Christian BARBIER	B2	Q1	30	30	-	**6**

[...] this list can be extended to courses of interest in the space sector included in the curriculum of other master's degrees:

Additional ECTS (max 15-60) Master in space sciences (120 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