Block view of the study programme

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Block 1

Common core courses

Choisir, en accord avec le Jury, des cours pour un total de 60 crédits dans les listes proposées ci-dessous, dont au moins un des deux premiers cours de 5 des 6 listes proposées :

Space sciences : interdisciplinary courses

SPAT0017-1	*Seminars on topical issues* (english language) - JeanRené CUDELL, Benoît HUBERT, Damien HUTSEMEKERS, Charles TROUPIN	TA	-	30	-	**3**
SPAT0035-1	*Space exploration* (english language) - Grégor RAUW	Q1	30	10	-	**4**
SPAT0001-1	*Plasma physics* (english language) - Benoît HUBERT	Q2	25	5	-	**4**
SPAT0018-1	*Ideas evolution in astronomy* - Yaël NAZÉ	Q1	14	6	-	**2**
SPAT0036-1	*Celestial mechanics and space trajectories* (english language) - Grégor RAUW	Q1	25	10	-	**4**
SPAT0040-1	*Fluid mechanics* (english language) - Pierre DAUBY	Q1	20	10	-	**4**

Cosmology, astroparticles and gravitational waves

SPAT0021-1	*Introduction to astroparticles* (english language) - JeanRené CUDELL	Q2	30	-	-	**3**
SPAT0012-1	*General relativity* (english language) - Guillaume MAHLER	Q1	30	10	-	**4**
SPAT0010-1	*Cosmology* (english language) - Guillaume MAHLER **Corequisite :** SPAT0012-1 - General relativity	Q2	15	5	-	**2**
SPAT0160-1	*Particles ans astroparticles* (english language) - JeanRené CUDELL **Corequisite :** SPAT0162-1 - Quantum field theory	Q2	20	10	-	**4**
SPAT0260-1	*Particles and gravitation* (english language) - JeanRené CUDELL **Corequisite :** SPAT0162-1 - Quantum field theory	Q2	10	5	-	**2**
SPAT0162-1	*Quantum field theory* (english language) - JeanRené CUDELL **Corequisite :** SPAT0012-1 - General relativity	Q1	20	10	-	**4**
PHYS2012-1	*Relativistic quantum mechanics and relativistic statistics* - Peter SCHLAGHECK	Q1	20	5	-	**3**
SPAT0084-1	*Theory of gravitational waves* (english language) - Maxime FAYS **Corequisite :** SPAT0012-1 - General relativity	Q1	20	10	-	**4**

Astrophysics

SPAT0033-1	*Astrophysics* (english language) - Michaël DE BECKER	Q1	35	10	-	**5**
SPAT0044-1	*Stellar structure and evolution I* (english language) - MarcAntoine DUPRET	Q1	35	-	-	**3**
SPAT0005-1	*Stellar stability and asteroseismology* (english language) - MarcAntoine DUPRET **Corequisite :** SPAT0044-1 - Stellar structure and evolution I	Q2	30	10	-	**4**
SPAT0006-1	*Stellar atmospheres* (english language) - Grégor RAUW	Q2	20	10	-	**3**
SPAT0007-2	*Variable stars* (english language) - Grégor RAUW	Q1	20	10	-	**3**
SPAT0008-1	*Interstellar medium* (english language) - Michaël DE BECKER, Valérie VAN GROOTEL	Q1	30	10	-	**4**
SPAT0009-1	*High-energy astrophysics* (english language) - Grégor RAUW	Q1	25	5	-	**3**

SPAT0011-1	*Extragalactic astrophysics* (english language) - Guillaume MAHLER, Dominique SLUSE **Corequisite :** SPAT0033-1 - Astrophysics	Q2	20	10	-	**3**
SPAT0020-2	*Astrochemistry* (english language) - Michaël DE BECKER	Q1	30	10	-	**4**
SPAT0045-1	*Stellar structure and evolution II* (english language) - MarcAntoine DUPRET **Corequisite :** SPAT0044-1 - Stellar structure and evolution I	Q2	20	20	-	**3**
SPAT0069-1	*Radio astrophysics* (english language) - Michaël DE BECKER	Q2	25	10	-	**4**
Planetary science and planetary systems						
SPAT0055-1	*Atmosphere of the Earth* (english language) - Denis GRODENT	Q1	45	-	-	**4**
SPAT0063-1	*Introduction to exoplanetology* (english language) - Olivier ABSIL, Michaël GILLON **Corequisite :** SPAT0033-1 - Astrophysics	Q2	20	10	-	**4**
SPAT0023-1	*Terrestrial magnetosphere and polar lights* (english language) - Benoît HUBERT	Q2	30	10	-	**4**
SPAT0028-2	*Planetary magnetospheres and aurorae* (english language) - Bertrand BONFOND, Denis GRODENT	Q2	20	10	-	**3**
SPAT0043-1	*The small bodies of the solar system* (english language) - Emmanuel JEHIN	Q2	15	5	-	**3**
SPAT0048-5	*Earth's atmospheric and space environment* (english language) - *Space environment* - Denis GRODENT - *Applied space environment* - Denis GRODENT	Q1	15 -	- 15	- -	**3**
SPAT0056-1	*Planetary and exoplanetary atmospheres* (english language) - Denis GRODENT **Corequisite :** SPAT0055-1 - Atmosphere of the Earth	Q2	30	15	-	**5**
GEOL0263-1	*Astrobiology* (english language) - Vinciane DEBAILLE, Emmanuelle JAVAUX, Yaël NAZÉ, Annick WILMOTTE	Q2	45	-	-	**5**
GEOG0670-1	*Active Tectonics and Seismology* (english language) - Clara BRERETON, HansBalder HAVENITH, Aurelia HUBERT - [2d FW]	Q1	20	10	[+]	**5**
SPAT0066-1	*Internal geophysics of the Earth and terrestrial bodies of the solar system* (english language) - N...	Q1	25	-	-	**2**
Climate, environment and oceanography						
SPAT0027-3	*Climate change and impacts* (english language) - Louis FRANÇOIS, Guy MUNHOVEN	TA	30	30	-	**5**
OCEA0071-1	*Geophysical fluid dynamics - part 1* (english language) - JeanMarie BECKERS	Q2	30	15	-	**6**
SPAT0024-2	*Meteorology* (english language) - *Part 1* - Louis FRANÇOIS - *Part 2* - Louis FRANÇOIS	Q1	20 20	10 10	- -	**6**
SPAT0025-1	*Climate and environmental modelling* (english language) - Louis FRANÇOIS, Guy MUNHOVEN	Q2	30	15	-	**4**
SPAT0026-1	*Paleoenvironment and evolution of the Earth system* (english language) - Louis FRANÇOIS	Q2	30	10	-	**4**
SPAT0032-2	*Remote sensing* (english language) - François JONARD	Q1	20	20	-	**5**
GEOG0037-1	*Global Navigation Satellite Systems* - René WARNANT	Q1	40	15	-	**5**
GEOG0038-1	*GNSS data processing* - René WARNANT	Q1	25	30	-	**5**

	Corequisite : GEOG0037-1 - Global Navigation Satellite Systems					
OCEA0045-1	*Statistical methods of analysis of oceanographic data* (english language) - N...	Q1	20	10	-	**3**
OCEA0087-1	*Satellite oceanography* (english language) - Aida ALVERA AZCARATE	Q1	15	15	-	**3**
OCEA0072-1	*Geophysical fluid dynamics - part 2* (english language) - JeanMarie BECKERS **Corequisite :** OCEA0071-1 - Geophysical fluid dynamics - part 1	Q1	30	15	-	**5**
OCEA0081-1	*Numerical Methods in Geophysics - Part 2* (english language) - JeanMarie BECKERS	Q1	15	30	-	**5**

Instrumentation and methods for space siences

SPAT0068-1	*Astrophysical observations* (english language) - Emmanuel JEHIN - [5d FW]	Q2	15	15	[+]	**6**
SPAT0002-1	*Statistical methods and data analysis* (english language) - Valentin CHRISTIAENS, Maxime FAYS, Guy MUNHOVEN, Dominique SLUSE	Q1	20	30	-	**5**
PHYS0048-3	*Coherent and incoherent optics, Instrumental optics I* (english language) - Serge HABRAKEN	Q1	20	15	-	**4**
SPAT0015-1	*Signal acquisition and processing : application to embedded systems* - N... (Even years)	Q2	10	30	-	**4**
PHYS0125-3	*Instrumental optics II* (english language) - Serge HABRAKEN **Corequisite :** PHYS0048-3 - Coherent and incoherent optics	Q2	25	15	-	**4**
SPAT0067-1	*Atmospheric and adaptive optics* (english language) - Olivier ABSIL	Q2	15	5	-	**2**
SPAT0085-1	*Analysis mehtods in gravitational-wave astronomy* (english language) - Maxime FAYS	Q2	20	10	-	**4**
SPAT0086-1	*Advanced data analysis in python and introduction to machine learning* (english language) - Valentin CHRISTIAENS, Maxime FAYS, Guy MUNHOVEN, Dominique SLUSE	Q2	15	25	-	**4**

Block 2

Focus optional courses

Choose courses totalling 30 ECTS out of the following :

[...] 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* - Marc GEORGES, Yaël NAZÉ, Grégor RAUW	TA	-	140	-	**10**

Core curriculum compulsory course

SMEM0029-1	*Final thesis* - COLLÉGIALITÉ, Michaël DE BECKER	TA	-	-	-	**27**

Common core courses

Choisir, en accord avec le Jury, un cours non déjà choisi de 3 crédits dans les listes proposées en Bloc 1

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

Bloc d'aménagement du programme de l'année

Bridging courses (max 15-60 credits) Master in space sciences (120 credits)

Optional courses

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

[...] Between 15 and 60 ECTS of courses