Cycle view of the study programme

To complete their curriculum, students must earn or validate the 75 credits of the compulsory courses (including the master thesis and Internship), 30 credits from the professional focus and choose optional courses for 15 credits.
Ideally, students enrolling in the master program should have acquired the skills and knowledge corresponding to the 40 credits in " Energy " offered as part of the bachelor program in engineering.

Compulsory courses from the core curriculum (B1 : 30Cr, B2 : 45Cr)

		Bl	Or	Th	Pr	Au	Cr
CHIM0695-2	*Modelling of chemical & energy processes* (english language) - Grégoire LÉONARD	B1	Q1	20	32	-	**5**
ELEC0055-3	*Element of power Electronics* (english language) - *Part A* - Fabrice FREBEL - *Part B* - Fabrice FREBEL	B1	Q1 30 -	 6 20	 - -		**5**
ELEC0447-1	*Analysis of electric power and energy systems* (english language) - Bertrand CORNÉLUSSE - [1d FW]	B1	Q1	26	26	[+]	**5**
MECA0450-3	*Renewable Energy System Design* (english language) - Pierre DEWALLEF - [24h Proj., 1d FW]	B1	Q1	24	12	[+]	**5**
ENRG0001-1	*Energy challenge (including seminars)* (english language) - Bertrand CORNÉLUSSE, Pierre DEWALLEF, Samuel GENDEBIEN, Vincent LEMORT, Grégoire LÉONARD - [3d FW, 80h Proj.] **Corequisite :** MECA0002-1 - Thermodynamique appliquée et introduction aux machines thermiques	B1	TA	30	-	[+]	**10**
CHIM0664-3	*Electrochemical energy conversion and storage* (english language) - *partim 1* - Nathalie JOB - *partim 3* - [3d FW]	B2	Q1 15 11	 - 7	 - [+]		**5**
ELEC0018-1	*Energy markets and regulation* (english language) - Damien ERNST	B2	Q1	39	13	-	**5**
GEST3162-1	*Principles of management* (english language) - Michaël PARMENTIER, Willem STANDAERT - [25h Proj.]	B2	Q1	30	-	[+]	**5**
ATFE9011-1	*Master's thesis and Internship* (english language) - Pierre DEWALLEF - [750h Proj.]	B2	TA	-	-	[+]	**30**

Optional courses from the core curriculum (B1 : 15Cr)

Choose 15 credits from the following list : (B1 : 15Cr)

[...] Remark : Electives may also be replaced by one or more courses from the undergraduate "energy" option for which competencies would not be acquired. The courses ELEC0053-2, MECA0002-1 and SYST0022-1 are corequisite to some compulsory courses of the master program. They must be taken prioritarily, unless they were already taken as part of the bachelor in engineering, or unless the corresponding knowledge and skills have been acquired previously.

		Bl	Or	Th	Pr	Au	Cr
ELEC0053-2	*Electric circuits* - Bertrand CORNÉLUSSE	B1	Q2	26	26	-	**5**
SYST0022-1	*Linear Systems Design* (english language) - Guillaume DRION, Pierre SACRÉ - [15h Proj.]	B1	Q2	26	26	[+]	**5**
MECA0002-1	*Applied Thermodynamics and Introduction to Heat Engines* - Vincent LEMORT	B1	Q1	26	26	-	**5**
CHIM9315-1	*Gestion durable des combustibles : approvisionnement, synthèse et utilisation* - Angélique LÉONARD, Grégoire LÉONARD - [1d FW, 25h Proj.]	B1	Q1	44	4	[+]	**5**
CHIM0009-3	*Thermodynamique chimique appliquée* - MarieNoëlle DUMONT, Nathalie JOB, Grégoire LÉONARD - [44h Proj.]	B1	Q2	26	26	[+]	**5**
GEOL1046-1	*Geothermal energy* (english language) - Bertrand FRANÇOIS, Philippe ORBAN - [40h Proj., 1d FW]	B1	Q2	18	15	[+]	**5**
ENRG0002-1	*Wind Energy* (english language) - Thomas ANDRIANNE, Koen HILLEWAERT - [12h Proj.]	B1	Q2	36	16	[+]	**5**
ENRG0003-1	*Hydropower* (english language) - Sébastien ERPICUM - [20h Proj., 1d	B1	Q2	26	26	[+]	**5**

	FW]						
GENU0018-3	*Introduction to Nuclear Engineering and Power Plant Technnologies* (english language) - Pierre DEWALLEF	B1	Q2	26	26	-	**5**
GCIV0008-2	*Energy and transport* (english language) - Mario COOLS - [25h Proj.]	B1	Q1	30	15	[+]	**5**
ARCH3272-1	*Building performance simulation and monitoring* (english language) - *Part 1* - Shady ATTIA - *Part 2* - Shady ATTIA - [70h Proj.]	B1	Q1 15 15	 15 25	 - [+]		**5**
ENRG0004-1	*CO2 capture, utilisation and storage* (english language) - Motiar RAHAMAN - [4d FW]	B1	Q2	26	22	[+]	**5**
MECA0034-1	*Energy flexibility in buildings* (english language) - Vincent LEMORT	B1	Q1	26	26	-	**5**
CHIM9330-1	*Management and safety of industrial processes* (english language) - *Partim "Safety"* - Angélique LÉONARD, Grégoire LÉONARD, Dominique TOYE, Dominique TOYE - [2d FW] - *Partim "Management"* - Angélique LÉONARD, Grégoire LÉONARD - [1d FW]	-	Q1 25 15	 - -	 [+] [+]		**1**

[...] Upon approval by the jury, 5 credits can be chosen among the courses of the two professional foci, from an other programme at ULiège or from the UNIC course catalog

Compulsory courses within the focus (B1 : 15Cr, B2 : 5Cr)

MATH0461-2	*Introduction to numerical optimization* (english language) - Quentin LOUVEAUX - [25h Proj.]	B1	Q1	30	20	[+]	**5**
ELEN0445-1	*Microgrids* (english language) - Bertrand CORNÉLUSSE - [24h Proj., 1d FW]	B1	Q2	18	18	[+]	**5**
ELEC0448-1	*Planning and operation of electric power and energy systems* (english language) - Bertrand CORNÉLUSSE, Damien ERNST, Louis WEHENKEL	B1	Q2	26	26	-	**5**
ENRG0006-1	*Energy Transition: Modeling and Scenario Analysis* (english language) - Xavier FETTWEIS, Sylvain QUOILIN	B2	Q2	26	26	-	**5**

Optional courses within the focus (B2 : 10Cr)

Select 10 credits among: (B2 : 10Cr)

ELEN0062-1	*Introduction to machine learning* (english language) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	B2	Q1	30	5	[+]	**5**
ELEC0449-1	*Practices and evolution of the electric power and energy industry* (english language) - Olivier BRONKART, Bertrand CORNÉLUSSE, Damien ERNST - [12h Proj., 6d FW]	B2	Q2	18	18	[+]	**5**
MATH0462-1	*Discrete optimization* (english language) - Quentin LOUVEAUX - [25h Proj.]	B2	Q2	30	20	[+]	**5**
INFO8010-1	*Deep learning* (english language) - Gilles LOUPPE - [60h Proj.] **Prerequisite :** ELEN0062-1 - Introduction to machine learning	B2	Q2	30	-	[+]	**5**
MQGE9007-1	*Advanced Modeling Techniques in Optimization* (english language) - Quentin LOUVEAUX, N...	B2	Q1	30	-	-	**5**