Vue cycle du programme des cours

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* (anglais) - Grégoire LÉONARD	B1	Q1	20	32	-	**5**
ELEC0055-3	*Element of power Electronics* (anglais) - *Partim A* - Fabrice FREBEL - *Partim B* - Fabrice FREBEL	B1	Q1 30 -	 6 20	 - -		**5**
ELEC0447-1	*Analysis of electric power and energy systems* (anglais) - Bertrand CORNÉLUSSE - [1j T. t.]	B1	Q1	26	26	[+]	**5**
MECA0450-3	*Renewable Energy System Design* (anglais) - Pierre DEWALLEF - [24h Proj., 1j T. t.]	B1	Q1	24	12	[+]	**5**
ENRG0001-1	*Energy challenge (including seminars)* (anglais) - Bertrand CORNÉLUSSE, Pierre DEWALLEF, Samuel GENDEBIEN, Vincent LEMORT, Grégoire LÉONARD - [3j T. t., 80h Proj.] **Corequis :** MECA0002-1 - Thermodynamique appliquée et introduction aux machines thermiques	B1	TA	30	-	[+]	**10**
CHIM0664-3	*Electrochemical energy conversion and storage* (anglais) - *partim 1* - Nathalie JOB - *partim 3* - [3j T. t.]	B2	Q1 15 11	 - 7	 - [+]		**5**
ELEC0018-1	*Energy markets and regulation* (anglais) - Damien ERNST	B2	Q1	39	13	-	**5**
GEST3162-1	*Principles of management* (anglais) - Michaël PARMENTIER, Willem STANDAERT - [25h Proj.]	B2	Q1	30	-	[+]	**5**
ATFE9011-1	*Master's thesis and Internship* (anglais) - 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	*Circuits électriques* - Bertrand CORNÉLUSSE	B1	Q2	26	26	-	**5**
SYST0022-1	*Linear Systems Design* (anglais) - Guillaume DRION, Pierre SACRÉ - [15h Proj.]	B1	Q2	26	26	[+]	**5**
MECA0002-1	*Thermodynamique appliquée et introduction aux machines thermiques* - Vincent LEMORT	B1	Q1	26	26	-	**5**
CHIM9315-1	*Gestion durable des combustibles : approvisionnement, synthèse et utilisation* - Angélique LÉONARD, Grégoire LÉONARD - [1j T. t., 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* (anglais) - Bertrand FRANÇOIS, Philippe ORBAN - [40h Proj., 1j T. t.]	B1	Q2	18	15	[+]	**5**
ENRG0002-1	*Wind Energy* (anglais) - Thomas ANDRIANNE, Koen HILLEWAERT - [12h Proj.]	B1	Q2	36	16	[+]	**5**
ENRG0003-1	*Hydropower* (anglais) - Sébastien ERPICUM - [20h Proj., 1j T. t.]	B1	Q2	26	26	[+]	**5**

GENU0018-3	*Introduction to Nuclear Engineering and Power Plant Technnologies* (anglais) - Pierre DEWALLEF	B1	Q2	26	26	-	**5**
GCIV0008-2	*Energy and transport* (anglais) - Mario COOLS - [25h Proj.]	B1	Q1	30	15	[+]	**5**
ARCH3272-1	*Building performance simulation and monitoring* (anglais) - *Partim 1* - Shady ATTIA - *Partim 2* - Shady ATTIA - [70h Proj.]	B1	Q1 15 15	 15 25	 - [+]		**5**
ENRG0004-1	*CO2 capture, utilisation and storage* (anglais) - Motiar RAHAMAN - [4j T. t.]	B1	Q2	26	22	[+]	**5**
MECA0034-1	*Energy flexibility in buildings* (anglais) - Vincent LEMORT	B1	Q1	26	26	-	**5**
CHIM9330-1	*Management and safety of industrial processes* (anglais) - *Partim "Safety"* - Angélique LÉONARD, Grégoire LÉONARD, Dominique TOYE, Dominique TOYE - [2j T. t.] - *Partim "Management"* - Angélique LÉONARD, Grégoire LÉONARD - [1j T. t.]	-	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* (anglais) - Quentin LOUVEAUX - [25h Proj.]	B1	Q1	30	20	[+]	**5**
ELEN0445-1	*Microgrids* (anglais) - Bertrand CORNÉLUSSE - [24h Proj., 1j T. t.]	B1	Q2	18	18	[+]	**5**
ELEC0448-1	*Planning and operation of electric power and energy systems* (anglais) - Bertrand CORNÉLUSSE, Damien ERNST, Louis WEHENKEL	B1	Q2	26	26	-	**5**
ENRG0006-1	*Energy Transition : Modeling and Scenario Analysis* (anglais) - 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* (anglais) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	B2	Q1	30	5	[+]	**5**
ELEC0449-1	*Practices and evolution of the electric power and energy industry* (anglais) - Olivier BRONKART, Bertrand CORNÉLUSSE, Damien ERNST - [12h Proj., 6j T. t.]	B2	Q2	18	18	[+]	**5**
MATH0462-1	*Discrete optimization* (anglais) - Quentin LOUVEAUX - [25h Proj.]	B2	Q2	30	20	[+]	**5**
INFO8010-1	*Deep learning* (anglais) - Gilles LOUPPE - [60h Proj.] **Prérequis :** ELEN0062-1 - Introduction to machine learning	B2	Q2	30	-	[+]	**5**
MQGE9007-1	*Advanced Modeling Techniques in Optimization* (anglais) - Quentin LOUVEAUX, N...	B2	Q1	30	-	-	**5**