

#### Cycle view of the study programme

B1 Or Th Pr Au Cr

Ce programme résulte d'une collaboration avec différentes universités européennes (Bordeaux, Lisbonne, Dortmund, etc.). Les étudiants qui participeront à ce programme devront acquérir 60 crédits à l'ULiège (30 crédits de finalité et 30 crédits pour les TFE/stage). Les 60 autres crédits seront acquis au sein d'une des universités partenaires du programme.

#### Focus courses (B2 : 30Cr)

GEOL1044-1	<i>Raw Materials in a Circular Economy</i> (english language) - Maud BAY, Sandra BELBOOM, Eric PIRARD - [1d FW]	B2	Q1	26	26	[+]	5
GEOL1043-1	<i>Extractive metallurgy</i> (english language) - Stoyan GAYDARDZHIEV, Andreas PFENNIG - [1d FW]	B2	Q1	30	20	[+]	5
GEOL0315-1	<i>Solid Waste and by products processing</i> (english language) - Stoyan GAYDARDZHIEV - [20h Labo., 7h Proj., 1,5d FW]	B2	Q1	20	-	[+]	5
GEOL1045-1	<i>Economic and societal issues in mining and recycling</i> (english language) - Eric PIRARD - [30h Proj., 2d FW]	B2	Q1	15	-	[+]	5
CHIM0695-2	<i>Modelling of chemical &amp; energy processes</i> (english language) - Grégoire LÉONARD	B2	Q1	20	32	-	5
MECA0526-1	<i>High Temperature Processes in Recycling &amp; Remanufacturing</i> (english language) - Anne MERTENS - [1d FW]	B2	Q1	26	26	[+]	5

#### Optional courses from the core curriculum (B1 : 60Cr, B2 : 5Cr)

##### Choose a partner university's programme: (B1 : 60Cr)

##### University of Miskolc (B1 : 60Cr)

HULG9740-1	<i>Quant. sustainability assessment methods, Project work *</i> (english language)	B1	-	-	-	-	6
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\* are joint (online) courses gathering students of the same edition

HULG9741-1	<i>Industrial Seminar, Joint Project *</i>	B1	-	-	-	-	6
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\* are joint (online) courses gathering students of the same edition

HULG9742-1	<i>Microstructure investigation</i> (english language)	B1	-	-	-	-	6
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HULG9743-1	<i>Basics of waste management and waste utilization</i> (english language)	B1	-	-	-	-	7
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HULG9744-1	<i>Recycling of glass, rubber, polymer and paper wastes</i> (english language)	B1	-	-	-	-	5
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HULG9745-1	<i>Materials testing</i> (english language)	B1	-	-	-	-	4
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HULG9746-1	<i>Polymer studies</i> (english language)	B1	-	-	-	-	4
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HULG9747-1	<i>Mechanical activation and particulate composites</i> (english language)	B1	-	-	-	-	6
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HULG9748-1	<i>Applied chemistry and transportation processes</i> (english language)	B1	-	-	-	-	6
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HULG9749-1	<i>Materials equilibria</i> (english language)	B1	-	-	-	-	3
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##### Elective courses (B1 : 7Cr)

Choose one course among: (B1 : 7Cr)

HULG9750-1	<i>Polymer studies 2</i> (english language)	B1	-	-	-	-	7
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HULG9751-1	<i>Waste preparation technologies and qualification of wastes</i> (english language)	B1	-	-	-	-	7
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HULG9752-1	<i>Chemical processes 2</i> (english language)	B1	-	-	-	-	7
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Remark: mandatory for those who want to get Uliège degree

##### University Nova of Lisboa (B1 : 60Cr)

HULG9755-1	<i>Biocatalysis and Bioremediation</i> (english language)	B1	-	-	-	-	6
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### Master MSc. in Chemical and Materials Science Engineering, professional focus in Advanced Materials - Innovative Recycling (AMIR-EM)

HULG9756-1	<i>Entrepreneurship</i> (english language)	B1	-	-	-	3
HULG9757-1	<i>Finance for Entrepreneurs</i> (english language)	B1	-	-	-	3
HULG9758-1	<i>Project in Innovative Materials Recycling and Sustainability</i> (english language)	B1	-	-	-	6
HULG9759-1	<i>Materials Selection and Sustainability</i> (english language)	B1	-	-	-	3
HULG9760-1	<i>Industrial and Entrepreneurial Seminars</i> (english language)	B1	-	-	-	3
HULG9761-1	<i>Substitution by Clean Technologies and Green Chemistry</i> (english language)	B1	-	-	-	6
HULG9762-1	<i>Characterisation, Monitoring and Rehabilitation Techniques</i> (english language)	B1	-	-	-	6
HULG9763-1	<i>Waste treatment and Recycling Technologies</i> (english language)	B1	-	-	-	3
HULG9764-1	<i>Advanced Topics in Materials Science and Engineering</i> (english language)	B1	-	-	-	3

#### Optional courses (B1 : 18Cr)

Choose 3 courses among: (B1 : 18Cr)

*Notice* : the first 3 courses are compulsory to obtain the degree of Master of science in Chemical and Materials Engineering of the University of Liège.

HULG9765-1	<i>Transport Phenomena</i> (english language)	B1	-	-	-	6
HULG9766-1	<i>Chemical Reactors I</i> (english language)	B1	-	-	-	6
HULG9767-1	<i>Separation Processes I</i> (english language)	B1	-	-	-	6
HULG9768-1	<i>Mineral Processing and Sustainable Exploration and Mining</i> (english language)	B1	-	-	-	6
HULG9769-1	<i>Mineral Resources in the Circular Economy</i> (english language)	B1	-	-	-	6
HULG9770-1	<i>Nanomaterials and Energy</i> (english language)	B1	-	-	-	3

Choose 5 credits from the University of Liège course catalog or the internship. (B2 : 5Cr)

ASTG0023-1	<i>Technical internship (8 weeks)</i> - Benoît HEINRICHS - [40d FW]	B2	TA	-	-	[+]	5
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[...] University of Liège course catalogue

#### Compulsory courses from the core curriculum (B2 : 25Cr)

*Notice* : the courses of this major are exclusively reserved for Erasmus students who follow the whole programme "Advanced Materials -Innovative Recycling" during the second year of the Master.

#### University of Liège

ATFE9012-1	<i>Master Thesis (including an introduction to research methodology)</i> (english language) - Grégoire LÉONARD - [750h Proj.]	B2	-	-	-	[+]	25
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