

#### Block 1

This programme is the result of a partnership with different European universities (Bordeaux, Lisbon, Dortmund, etc.). Students who participate in this programme must acquire 60 credits from Uliège (30 credits for the focus and 30 credits for the dissertation/internship). The 60 remaining credits will be acquired within one of the programme's partner universities.

#### Optional courses from the core curriculum

##### Choose a partner university's programme:

###### University of Miskolc

HULG9740-1	<i>Quant. sustainability assessment methods, Project work</i> * (english language)	-	-	-	<b>6</b>
* are joint (online) courses gathering students of the same edition					
HULG9741-1	<i>Industrial Seminar, Joint Project</i> *	-	-	-	<b>6</b>
* are joint (online) courses gathering students of the same edition					
HULG9742-1	<i>Microstructure investigation</i> (english language)	-	-	-	<b>6</b>
HULG9743-1	<i>Basics of waste management and waste utilization</i> (english language)	-	-	-	<b>7</b>
HULG9744-1	<i>Recycling of glass, rubber, polymer and paper wastes</i> (english language)	-	-	-	<b>5</b>
HULG9745-1	<i>Materials testing</i> (english language)	-	-	-	<b>4</b>
HULG9746-1	<i>Polymer studies</i> (english language)	-	-	-	<b>4</b>
HULG9747-1	<i>Mechanical activation and particulate composites</i> (english language)	-	-	-	<b>6</b>
HULG9748-1	<i>Applied chemistry and transportation processes</i> (english language)	-	-	-	<b>6</b>
HULG9749-1	<i>Materials equilibria</i> (english language)	-	-	-	<b>3</b>

###### Elective courses

Choose one course among:

HULG9750-1	<i>Polymer studies 2</i> (english language)	-	-	-	<b>7</b>
HULG9751-1	<i>Waste preparation technologies and qualification of wastes</i> (english language)	-	-	-	<b>7</b>
HULG9752-1	<i>Chemical processes 2</i> (english language)	-	-	-	<b>7</b>

Remark: mandatory for those who want to get Uliege degree

###### University Nova of Lisboa

HULG9755-1	<i>Biocatalysis and Bioremediation</i> (english language)	-	-	-	<b>6</b>
HULG9756-1	<i>Entrepreneurship</i> (english language)	-	-	-	<b>3</b>
HULG9757-1	<i>Finance for Entrepreneurs</i> (english language)	-	-	-	<b>3</b>
HULG9758-1	<i>Project in Innovative Materials Recycling and Sustainability</i> (english language)	-	-	-	<b>6</b>
HULG9759-1	<i>Materials Selection and Sustainability</i> (english language)	-	-	-	<b>3</b>
HULG9760-1	<i>Industrial and Entrepreneurial Seminars</i> (english language)	-	-	-	<b>3</b>
HULG9761-1	<i>Substitution by Clean Technologies and Green Chemistry</i> (english language)	-	-	-	<b>6</b>
HULG9762-1	<i>Characterisation, Monitoring and Rehabilitation Techniques</i> (english language)	-	-	-	<b>6</b>
HULG9763-1	<i>Waste treatment and Recycling Technologies</i> (english language)	-	-	-	<b>3</b>
HULG9764-1	<i>Advanced Topics in Materials Science and Engineering</i> (english language)	-	-	-	<b>3</b>

# Study programmes 2025-2026

## Faculty of Applied Sciences

### Master MSc. in Chemical and Materials Science Engineering, professional focus in Advanced Materials - Innovative Recycling

#### Optional courses

Choose 3 courses among:

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

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

#### Block 2

#### Compulsory courses from the core curriculum

*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) - Stéphanie LAMBERT - [750h Proj.]	TA	-	-	[+]	<b>25</b>
[...] Choose 5 credits from the University of Liège course catalog or the internship.						
ASTG0023-1	<i>Technical internship (8 weeks)</i> - Benoît HEINRICH - [40d FW]	TA	-	-	[+]	<b>5</b>
CHIM0022-4	<i>Transport phenomena</i> (english language)	Q2				<b>5</b>
	- Part A - Suppl : Dominique TOYE		30	-	-	
	- Part B - Suppl : Dominique TOYE		-	20	-	

Note : CHIM0022-4 is a compulsory course for students who have not taken an equivalent course in their curriculum. Please note that among the courses organized at University Nova of Lisboa, the course Transport Phenomena II can be recognized as an equivalent course, but not the course Transport Phenomena I.

#### Focus courses

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