

**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 in the speciality and 30 credits for the dissertation/internship). The 60 remaining credits will be acquired within one of the programme's partner universities.

**Elective courses**

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

**University of Miskolc**

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

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

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

Choose one course among:

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

**University Nova of Lisboa**

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

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

#### Block 2

#### Elective courses

##### Single focus

##### Professional focus in Advanced Materials - Innovative Recycling

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

#### Compulsory Courses

*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

ASTG0023-1	<i>Technical internship (8 weeks)</i> - Benoît HEINRICHS - [40d FW]	TA	-	-	[+]	5
ATFE0004-1	<i>Master Thesis (including an introduction to research methodology)</i> - COLLÉGIALITÉ, Angélique LÉONARD, Grégoire LÉONARD - [750h Proj.]	TA	-	-	[+]	25