

**At Louvain-la-Neuve - 120 credits - 2 years - Day schedule - In English**

Dissertation/Graduation Project : **YES** - Internship : **YES**

Activities in English: **YES** - Activities in other languages : **optional**

Activities on other sites : **NO**

Main study domain : **Sciences de l'ingénieur et technologie**

Organized by:



## GCE2M - Teaching profile

### Learning outcomes

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Civil engineers are expected to design and construct basic infrastructure for our everyday lives while at the same time respecting and improving the environment.

This Master's degree programme aims to train experts in the field of civil and environmental engineering who will be able to take into account sustainable development, as well as the unique prototype scale of the projects and the complex natural world in which these projects take place.

The future civil engineer will acquire the necessary skills and knowledge to become:

- a professional engineer capable of integrating multiple fields of civil and environmental engineering
- a practical engineer who can use his/her knowledge for solving real-world problems and use appropriate civil engineering tools and techniques, either on construction sites or in design offices
- a specialist in cutting edge methods used in civil and environmental engineering: construction, hydraulics, geotechnology, structures, materials and environment
- a manager capable of supervising projects alone or contributing as part of a team

The multidisciplinary training offered by the Louvain School of Engineering (EPL) emphasises a combination of theory and practice as well as analysis, design, manufacturing, production, research and development and innovation while never losing sight of issues related to ethics and sustainable development.

On successful completion of this programme, each student is able to :

1. Demonstrate mastery of a solid body of knowledge and skills in basic and engineering science that allows them to solve relevant problems

1.1 Identify and use biomedical engineering concepts, laws and reasoning to solve problems related to civil and environmental engineering:

- Structures: design and calculation (cement, metal, wood, composite materials)
- Geotechnology: soil mechanics, foundations, subterranean drainage
- Hydraulic loads and open channel flow
- Infrastructure projects (bridges, dams, roads, tunnels)

1.2 Identify and use the modelling and calculation tools necessary to solve problems in the fields mentioned above

1.3 Validate problem solving results

2. Organise and carry out an engineering procedure in order to meet a specific need or solve a particular problem

2.1 Analyse all aspects of a problem, sort through available information, identify limits (rules, technical, security, budgetary, human, environmental, etc.) linked to the completion of a civil engineering project in order to write a specifications note



● LGCE2990

Graduation project/End of studies project

*The graduation project can be written and presented in French or English, in consultation with the supervisor. It may be accessible to exchange students*

**PROFESSIONAL FOCUS [30.0]**

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊙ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🚫🌐 Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

Year

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**o Content:**

**o Compulsory courses (20 credits)**

○ LGCIV2011	<a href="#">Project 1</a>	Pierre Latteur Hadrien Rattet Thomas Vandenberg Denis Zastavni	EN [q1] [42.5h+40h] [7 Credits] 🌐 > French-friendly	X	
○ LGCIV2014	<a href="#">Building technology</a>	Sergio Altomonte Pierre Latteur Yvette Pelsser	EN [q1] [30h] [3 Credits] 🌐 > French-friendly	X	
○ LGCIV2013	<a href="#">Hydraulic structures</a>	Didier Bousmar Sandra Soares Frazao			

## OPTIONS

The student completes his/her program with options and/or elective courses, including a minimum of 23 ECTS from the courses offered in the "Majors for Master in Civil Engineering" section".

<p>Majors for master in civil engineering</p> <ul style="list-style-type: none"> <li>&gt; Major in geotechnical engineering [ en-prog-2024-gce2m-lgce223o ]</li> <li>&gt; Major in structural engineering [ en-prog-2024-gce2m-lgce226o ]</li> <li>&gt; Major in hydraulic engineering [ en-prog-2024-gce2m-lgce225o ]</li> <li>&gt; Major in architecture [ en-prog-2024-gce2m-lgce227o ]</li> <li>&gt; Major in sustainable construction [ en-prog-2024-gce2m-lgce224o ]</li> <li>&gt; Major in environmental engineering [ en-prog-2024-gce2m-lgce232o ]</li> </ul> <p>Options et cours au choix en connaissances socio-économiques</p> <ul style="list-style-type: none"> <li>&gt; Business risks and opportunities [ en-prog-2024-gce2m-lgce230o ]</li> <li>&gt; Major in Interdisciplinary Program in Entrepreneurship - INEO [ en-prog-2024-gce2m-lgce231o ]</li> <li>&gt; Cours au choix en connaissances socio-économiques [ en-prog-2024-gce2m-lgce200o ]</li> </ul> <p>Other elective courses</p> <ul style="list-style-type: none"> <li>&gt; Other elective courses [ en-prog-2024-gce2m-lgce229o ]</li> </ul>
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## MAJORS FOR MASTER IN CIVIL ENGINEERING

### MAJOR IN GEOTECHNICAL ENGINEERING

- Mandatory
- ✘ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🚫 Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

L'étudiant-e qui choisit de valider cette option doit sélectionner au minimum 15 crédits parmi les cours proposés.

Year

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#### Content:

✘ LGCIV2073	Hydrogeology and Geoenvironment	Hadrien Rattez	FR [q1] [30h+15h] [5 Credits] 🌐 > French-friendly	X	X	
✘ LGCIV2074	Offshore Geotechnics	Benoît Spinewine	FR [q2] [20h+15h] [4 Credits] 🌐 > French-friendly	X	X	
✘ LGCIV2076	Geotechnical risks	Jean-François Vanden Berghe	FR [q1] [20h+15h] [4 Credits] 🌐 > French-friendly	X	X	
✘ LBIR1336	Soil science and integrated excursions	Yannick Agnan (coord.) Richard Lambert Caroline Vincke	FR [q2] [30h+37.5h] [5 Credits] 🌐 > English-friendly	X	X	
✘ LBRES2103	Soil physics applied to Agronomy and Environment	Charles Bielders (coord.) Mathieu Javaux Mathieu Javaux (compensates) Charles Bielders	FR [q1] [30h+15h] [4 Credits] 🌐	X	X	

## MAJOR IN STRUCTURAL ENGINEERING

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- Mandatory
- ✘ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
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- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🌐 Not open to incoming exchange students
- (FR) Teaching language (FR, EN, ES, NL, DE, ...)

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[Click on the course title to see detailed informations \(objectives, methods, evaluation...\)](#)

*L'étudiant-e qui choisit de valider cette option doit sélectionner au minimum 15 crédits parmi les cours proposés.*

Year

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## MAJOR IN HYDRAULIC ENGINEERING

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- Mandatory
  - ✘ Optional
  - △ Not offered in 2024-2025
  - Not offered in 2024-2025 but offered the following year
  - ⊕ Offered in 2024-2025 but not the following year
  - △ ⊕ Not offered in 2024-2025 or the following year
  - Activity with requisites
  - 🌐 Open to incoming exchange students
  - 🚫🌐 Not open to incoming exchange students
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**MAJOR IN ARCHITECTURE**

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- Mandatory
- ✘ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🌐 Not open to incoming exchange students
- (FR) Teaching language (FR, EN, ES, NL, DE, ...)

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[Click on the course title to see detailed informations \(objectives, methods, evaluation...\)](#)

*L'étudiant-e qui choisit de valider cette option doit sélectionner au minimum 15 crédits parmi les cours proposés.*

*Minimum 15 credit(s)*

Year

## MAJOR IN SUSTAINABLE CONSTRUCTION

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🚫🌐 Not open to incoming exchange students
- (FR) Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

L'étudiant-e qui choisit de valider cette option doit sélectionner au minimum 15 crédits parmi les cours proposés.

Year

1 2

### Content:

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⊗ LGCIV2043	Timber Structures	Pierre Latteur	FR [q2] [20h+15h] [4 Credits] 🌐		X	X
⊗ LGCIV2047	Pathology and rehabilitation of structures	Luca Sgambi	FR [q2] [30h] [4 Credits] 🌐		X	X
⊗ LICAR2841	Conception de l'architecture avec le bois		FR [q2] [22.5h] [3 Credits] ⊖ 🌐		X	X
⊗ LMAPR2483	Durability of materials	Laurent Delannay Thomas Pardoën	EN [q2] [30h+22.5h] [5 Credits] 🌐 > French-friendly		X	X
⊗ LICAR2801	Theory and research in the physical sciences: sustainable building	Sergio Altomonte Laura Marin Restrepo Geoffrey Van Moeseke	FR [q1] [80h] [9 Credits] 🌐		X	X
⊗ LICAR2823	Edification soutenable 3 : architecture climatique	Sergio Altomonte Laura Marin Restrepo	FR [q2] [22.5h] [3 Credits] ⊕ 🌐		X	X
⊗ LICAR2831	Architecture : rénovation, restauration	Cécile Mairy	FR [q2] [22.5h] [3 Credits] ⊖ 🌐		X	X
⊗ LLOCI2006	Parametric design					

## MAJOR IN ENVIRONNEMENTAL ENGINEERING

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- Mandatory
- ✘ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🌐 Not open to incoming exchange students
- (FR) Teaching language (FR, EN, ES, NL, DE, ...)

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[Click on the course title to see detailed informations \(objectives, methods, evaluation...\)](#)

*L'étudiant-e qui choisit de valider cette option doit sélectionner au minimum 15 crédits parmi les cours proposés.*

Year

1 2

### o Content:

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OPTIONS ET COURS AU CHOIX EN CONNAISSANCES SOCIO-ÉCONOMIQUES

**BUSINESS RISKS AND OPPORTUNITIES**

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🚫 Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

Year

1 2

o **Content:**

○ LEPL2211	<a href="#">Business issues introduction</a>	Benoît Gailly	EN [q2] [30h] [3 Credits] 🌐 > French-friendly	X	X
○ LEPL2212	<a href="#">Financial performance indicators</a>	Anne-Catherine Provost	EN [q2] [30h+5h] [4 Credits] 🌐 > French-friendly	X	X
○ LEPL2214	<a href="#">Law, Regulation and Legal Context</a>	Vincent Cassiers Werner Derycke	FR [q1] [30h+5h] [4 Credits] 🌐	X	X

o **One course between**

From 3 to 5 credit(s)

⊗ LEPL2210	<a href="#">Ethics and ICT</a>	Axel Gosseries Olivier Pereira	EN [q2] [30h] [3 Credits] 🌐 > French-friendly	X	X
⊗ LLSMS2280	<a href="#">Business Ethics and Compliance Management</a>	Carlos Desmet	EN [q1] [30h] [5 Credits] 🌐	X	X

⊗ **Cours en marketing**

⊗ MGEST1108	<a href="#">Marketing</a>	Nadia Sinigaglia	FR [q2] [45h+20h] [6 Credits] 🌐	X	X
⊗ MLSMM2136	<a href="#">Trends in Digital Marketing</a>	Ingrid Poncin	FR [q2] [30h] [5 Credits] 🌐		X
⊗ MLSMM2134	<a href="#">e-Consumer Behavior</a>	Karine Charry	FR [q2] [30h] [5 Credits] 🌐		X

⊗ **Cours en Sourcing and Procurement**

⊗ LLSMS2036	<a href="#">Supply Chain Procurement</a>	Per Joakim Agrell Antony Paulraj	EN [q1] [30h] [5 Credits] 🌐	X	X
⊗ LLSMS2038	<a href="#">Procurement Organisation and Scope</a>	X			





				Year	
				1	2
⊗ LNEER2600	Seminar of entry to professional life in Dutch - Upper-Intermediate level	Isabelle Demeulenaere (coord.) Dag Houdmont	NI [q1 or q2] [30h] [3 Credits] 	x	x

⊗ **Group dynamics**

⊗ LEPL2351	Become a tutor	Jean-Charles Delvenne (coord.) Delphine Ducarme Thomas Pardoën
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## GCE2M - Information

### Access Requirements

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*Master course admission requirements are defined by the French Community of Belgium Decree of 7 November 2013 defining the higher education landscape and the academic organisation of courses.*

*General and specific admission requirements for this programme must be satisfied at the time of enrolling at the university.*

*Unless explicitly mentioned, the bachelor's, master's and licentiate degrees listed in this table or on this page are to be understood as*







