

Programme jointly offered by Ghent University, KU Leuven

Master of Science in Geology

Language of instruction: English

Programme version 14

1 Majors

Subscribe to 1 major from the following list. Subject to approval by the faculty.

1.3. Major Geosciences: all courses are taught at KU Leuven.

1.1 Major Basins and Orogens

60 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C002607 Micropaleontology and Paleo-environmental Reconstruction <i>Stephen Louwye -- Department of Geology</i>	6		1	A:1	150
2	C002646 Field Course: Biosphere Evolution and Stratigraphy <i>Stephen Louwye -- Department of Geology</i>	6		1	A:1	150
3	C002645 Exploration Geophysics <i>David Van Rooij -- Department of Geology</i>	6		1	A:1	150
4	C003335 Origin, Evolution and Modelling of Sedimentary Basins <i>Katleen Wils -- Department of Geology</i>	6		1	A:1	150
5	C003336 Geochronology <i>Johan De Grave -- Department of Geology</i>	6		1	A:1	150
6	C003994 Mineral Resources, Economics and the Environment <i>Stijn Dewaele -- Department of Geology</i>	6		2	A:1	150
7	C003693 Imaging Techniques of Consolidated and Unconsolidated Sediments <i>Veerle Cnudde -- Department of Geology</i>	6		2	A:1	176
8	C002664 Paleoclimatology <i>Dirk Verschuren -- Department of Biology</i>	6		2	A:1	150
9	C003567 Field Course: Geology of Basins and Orogens <i>Johan De Grave -- Department of Geology</i>	6		2	A:1	150
10	C003337 Advanced Sedimentology <i>Maarten Van Daele -- Department of Geology</i>	6		2	A:1	156

1.2 Major Groundwater and Mineral Resources

60 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C002655 Groundwater Chemistry <i>Marieke Paepen -- Department of Geology</i>	6		1	A:1	150
2	C002656 Groundwater Modelling <i>Thomas Hermans -- Department of Geology</i>	6		1	A:1	150
3	C002645 Exploration Geophysics <i>David Van Rooij -- Department of Geology</i>	6		1	A:1	150
4	C003693 Imaging Techniques of Consolidated and Unconsolidated Sediments <i>Veerle Cnudde -- Department of Geology</i>	6		1	A:1	176
5	C003994 Mineral Resources, Economics and the Environment <i>Stijn Dewaele -- Department of Geology</i>	6		1	A:1	150
6	C004415 Hydrogeophysics Project <i>Thomas Hermans -- Department of Geology</i>	6		2	A:1	150
7	C003996 Groundwater and Mineral Resources Apprenticeship <i>Thomas Hermans -- Department of Geology</i>	6		2	A:1	150

8	C003995	Geology of Building Stones <i>Veerle Cnudde -- Department of Geology</i>	6	2	A:1	176
9	C002651	Geographic Information Systems <i>Nico Van de Weghe -- Department of Geography</i>	6	2	A:1	150
10	C002615	Environmental Impact Assessment <i>Marieke Paepen -- Department of Geology</i>	6	2	A:1	150

1.3 Major Geosciences

57 credits

Subscribe to 57 credit units from the following list, with 36 credit units with reference a.

Distributed over the first standard learning path as follows: 18 credit units with ref. a in year 1, 18 credit units with ref a in year 2.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003391 Geology and Society <i>Philippe Muchez -- KU Leuven</i>	3		1	A:1	90
2	C004474 Research Methods <i>Gert Jan Weltje -- KU Leuven</i>	3		1	A:1	75
3	C004475 Sedimentary Systems Analysis <i>Gert Jan Weltje -- KU Leuven</i>	6		1	A:1	150
4	C003393 International Integrated Field Course <i>Gert Jan Weltje -- KU Leuven</i>	3		1	A:2	75
5	C004476 Geological Mapping <i>Manuel Sintubin -- KU Leuven</i>	6		2	A:1	150
6	C002528 Applied Mineralogy <i>Jan Elsen -- KU Leuven</i>	6	a		A:1	150
7	C002530 Ore-forming Processes <i>Philippe Muchez -- KU Leuven</i>	6	a		A:1	150
8	C002607 Micropaleontology and Paleo-environmental Reconstruction <i>Stephen Louwye -- Department of Geology</i>	6	a		A:1	150
9	C003396 Environmental change <i>Nils Broothaerts -- KU Leuven</i>	6	a		A:1	150
10	C004090 Archaeometry <i>Patrick Degryse -- KU Leuven</i>	6	a		A:1	150
11	C004361 Microtectonics <i>Manuel Sintubin -- KU Leuven</i>	6	a		A:1 ^a	150
12	C003827 Advanced Igneous and Metamorphic Petrology <i>Olivier Namur -- KU Leuven</i>	6	a		(A:1) ^d	150

2 Elective Courses

Subscribe to no less than 1 and no more than 3 modules from the following list. Subject to approval by the faculty.

- Major Basins and Orogens - Subscribe to no more than 30 credit units.
- Major Groundwater and Mineral Resources - Subscribe to no more than 30 credit units.
- Major Geosciences - Subscribe to no more than 33 credit units.

2.1 Elective Course List

Subscribe to no more than 33 credit units from the following list.

Courses 1 to 14 are offered at UGent, 15 to 34 at KU Leuven, of which 31 to 34 only in combination with the major geosciences. When choosing a course with reference a or b, take both courses with that reference.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C004254 Geohazards <i>Maarten Van Daele -- Department of Geology</i>	3			A:2	75
2	C004255 Geothermal Energy <i>Thomas Hermans -- Department of Geology</i>	3			A:2	90
3	E076460 Dare to Venture	4			A:2	120
4	E076471 Dare to Start <i>Wouter Haerick -- Department of Information Technology</i>	3			A:2	90
5	C002653 Geology: a Human Perspective <i>Stephen Louwye -- Department of Geology</i>	3			A:2	75
6	C004082 Evolution of Primates and Paleo-anthropology <i>Dominique Adriaens -- Department of Biology</i>	3			(A:2) ^d	75
7	C002633 Advanced Micropaleontology <i>Stephen Louwye -- Department of Geology</i>	6			A:2	150

8	C002642	Dredging and Offshore Constructions <i>Bruno Stuyts -- Department of Civil Engineering</i>	3		75
9	C002660	Introduction to Geotechnics <i>Herman Peiffer -- Department of Civil Engineering</i>	3	A:2	90
10	C003727	3D Digital Rocks <i>Tom Bultreys -- Department of Geology</i>	3	A:2	88
11	C003340	Geochronological Methods in Practice <i>Johan De Grave -- Department of Geology</i>	3	A:2	80
12	C004416	Clay Mineralogy <i>Stijn Dewaele -- Department of Geology</i>	4		100
13	C003998	Integrated Offshore Exploration <i>David Van Rooij -- Department of Geology</i>	6	A:2	150
14	C003999	Geology of the Precambrian	3	(A:2) ^c	75
15	C003404	Earth Observation <i>Gabriëlle De Lannoy -- KU Leuven</i>	5	A:1	125
16	C003406	Environmental Law [nl] <i>Kurt Deketelaere -- KU Leuven</i>	4	A:1	100
17	C003794	Advanced Biological Data Analysis <i>Tom Wenseleers -- KU Leuven</i>	6	A:1	150
18	C003410	Metals: Production and Recycling <i>Bart Blanpain -- KU Leuven</i>	6	A:1	150
19	C003719	Geographical Research Methods 3: Numerical Modelling <i>Nicole Van Lipzig -- KU Leuven</i>	3	A:2	90
20	C003828	Biogeography and Macro-ecology <i>Luc Brendonck -- KU Leuven</i>	6	A:2	150
21	C004003	Management of Soil and Groundwater Contamination [en, nl] <i>Jan Vanderborght -- KU Leuven</i>	4	A:2	120
22	C003417	Soil Mechanics and Foundation Engineering [nl] <i>Noël Huybrechts -- KU Leuven</i>	6	A:2	150
23	C004483	Leadership for Geoscientists <i>Jos Decler -- KU Leuven</i>	3	A:2	75
24	C004004	Science and Sustainability [en, nl] <i>Griet Ceulemans -- KU Leuven</i>	6	A:J	150
25	C004362	Science Communication and Outreach <i>Katrien Kolenberg -- KU Leuven</i>	6	A:2	150
26	C004387	Global Sustainability Challenges [nl]	3	A:2	90
27	C004470	Planetary Geology <i>Olivier Namur -- KU Leuven</i>	3	A:1 ^a	90
28	C004477	Research Seminars	3	A:J	75
29	C003226	Geofluids <i>Philippe Muchez -- KU Leuven</i>	3	A:2	75
30	C003397	Global Biogeochemical Cycles <i>Steven Bouillon -- KU Leuven</i>	4	A:2	100
31	C004478	Professional Internship Geology: Assignment <i>Jan Elsen -- KU Leuven</i>	15	a	A:2 375
32	C004479	Professional Internship Geology: Report <i>Jan Elsen -- KU Leuven</i>	15	a	A:2 375
33	C004482	Research Internship Geology: Assignment <i>Jan Elsen -- KU Leuven</i>	6	b	A:2 150
34	C004480	Research Internship Geology: Report <i>Jan Elsen -- KU Leuven</i>	6	b	A:2 150

2.2 Elective Courses Flemish Community

[Elective courses to be chosen from the programmes of the higher education institutes of the Flemish Community.](#)

2.3 Erasmus Exchange

[Courses to be chosen from the study programmes of Erasmus+ partner universities.](#)

3 Master's Dissertation

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C002954 Master's Dissertation	30		2	B:J	900

Teaching

When a course is not taught (solely) in the programme's language of instruction, the effectively used languages are indicated in square brackets following the course name, using the following ISO codes:

bg: Bulgarian	de: German	es: Spanish	ja: Japanese	pl: Polish	sh: Croatian/Serbian	zh: Chinese
cs: Czech	el: Greek	fr: French	nl: Dutch	pt: Portuguese	sl: Slovene	
da: Danish	en: English	it: Italian	no: Norwegian	ru: Russian	sv: Swedish	

Semester

Semesters are indicated by their number (1 or 2); semester 3 represents the summer period and J indicates a course spanning semesters 1 and 2. When a capital letter precedes a semester number, the course has multiple offerings. The letter indicates the offering concerned.

When a semester is shown in brackets, the course is not offered this year in the specific offering.

The offering frequency and first year of offering are indicated by the following codes:

a: bi-annually	c: annually, from 2026-2027	f: annually, from 2027-2028	i: annually, from 2028-2029
b: tri-annually	d: bi-annually, from 2026-2027	g: bi-annually, from 2027-2028	j: bi-annually, from 2028-2029
	e: tri-annually, from 2026-2027	h: tri-annually, from 2027-2028	k: tri-annually, from 2028-2029