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4.00 credits	30.0 h + 30.0 h	Q2
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Teacher(s)	Vanacker Veerle ;Vanwambeke Sophie ;
Language :	French > English-friendly
Place of the course	Louvain-la-Neuve
Prerequisites	Introductory course in human and physical geography, such as LGEO1221 and LGEO111, or other equivalent course for exchange students in geography. For the realization of the research project, notions of Geographical Information Systems (GIS) and Cartography are necessary.
Main themes	The course is conceived as an integrated project on a pertinent geographical research theme, in particular the risks associated with natural hazards in Belgium.
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <p>This course has as double objective to stimulate the students to apply geographical tools and competences in a research project, and at the same to gain transversal skills to complete an effective and productive group project.</p> <p>The competences that will be developed in this course are :</p> <p>Know-how:</p> <ul style="list-style-type: none"> • Capacity to apply tools and techniques of cartography, geographical information systems and statistics in a research project • Capacity to perform a rigorous bibliographic search and to select pertinent information (including historical maps) 1 • Capacity to integrate different geographic information sources (historical maps, city maps, aerial photographs, and census data) <p>Expertise:</p> <ul style="list-style-type: none"> • Synthetize the outcomes of a bibliographic study, and know how to document references properly using bibliographic reference software • Communicate orally and in writing precisely the objectives, materials and methods, results and conclusion of a research project • Understand and use the vocabulary of the discipline in oral and written communications • Work as a team on a common project
Evaluation methods	<p>The evaluation of the course is based on the students' individual participation in the group work and the weekly sessions with the teachers, the evaluation of intermediate results (tables, maps, ...), and the final report on the research activities with full documentation of results. The final grade will be calculated as follows: 80% on the scientific reporting and 20% on the individual participation.</p> <p>If generative AI was used for the redaction or correction of the text of the report, this needs to be declared upfront, and the sections where generative AI was used need to be marked as such. The student is responsible for the content of the report, and needs to cite the original bibliographic sources following the bibliographic standards.</p>
Teaching methods	The course includes 10 sessions that are composed of a theoretical and practical part with learning activities realized by the students. These activities include – amongst others – the reading of geographical maps, the manipulation of geographical data in GIS, and analyses of hydrometeorological and demographic data.
Content	<p>This course is centered on a current geographical issue - the risks linked to natural hazards - and covers different aspects of geography, including physical, environmental and human aspects. Based on bibliographic research on flood risks and hazards in the context of global changes, teams of 2 – 3 students develop a specific research question which is developed in a geographical region in Wallonia.</p> <p>For 10 weeks, the teams analyze the natural and anthropogenic components of a landscape using historical maps, aerial photographs and satellite images, and digital terrain, soil, and geology data in GIS. Flood hazard mapping is based on topographic and soil information, and complemented with an analysis of hydrometeorological data to identify flood levels. It is followed by a risk assessment and flood risk mapping. The final outcomes are reported in a scientific paper which is organized according to the principles of a scientific publication.</p>

Inline resources	All useful resources are on Moodle.
Other infos	Active and in-person participation in the sessions is mandatory. The sessions are organized once per academic year, and it is not possible to repeat them in the second session.
Faculty or entity in charge	GEOG

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Additionnal module in Geography	APPGEOG	4		
Additionnal module in Geography : global change and transition management	APPGEO	4		