UCLouvain

lgeo1242

2026

Cartographic projections and geodesy

5.00 credits	30.0 h + 15.0 h	Q2

Teacher(s)	Crucifix Michel ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	The course's goal is to teach the futur geographs to build a geographical map and to use it correctly. It contains: 1. - an overview of the methods of topography which given the dimensions and relative positions of particularities of the field that we want to put into place. 2. - showing the representation modes or "cartographic projections", their definition formulas, their properties, the deformations that they come with, the way to build them graphically or by calculation.
Learning outcomes	
Evaluation methods	Homework (written) whose content is communicated during the year, and must be returned before the end of week 13. This assignment counts for 1/4 of the final grade and the grade cannot be changed. Written exam in June session. Oral or written exam in the third session depending on organizational constraints.
Content	**Part I: Geodesy** 1. Review of plane trigonometry 2. Positioning in the plane using reference frames 3. Definition of the geoid and geographical coordinates 4. Relations of spherical trigonometry 5. Great-circle navigation and loxodromy on the sphere 6. GNSS 7. The celestial sphere / astronomical coordinates 8. Diurnal and annual motions, and the definition of time **Part II: Map projections** 1. General principles of cartography 2. Definition of a cylindrical projection 3. Conic projections 4. Azimuthal projections
Faculty or entity in charge	GEOG

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Minor in Geography	MINGEOG	5		🔍
Bachelor in Geography : General	GEOG1BA	5		🔍