1.	Field of study	Geography
2.	Faculty	Faculty of Natural Sciences
3.	Academic year of entry	2020/2021 (winter term), 2021/2022 (winter term)
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Module: Introduction to cartography and geodesy

Module code: 04-GF-S2-1101

1. Number of the ECTS credits: 5

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
04-GF-S2-1101_1	The student has an extended knowledge in the field of geodesy and cartography, supported by the current literature of the subject and identifies the relationships and dependencies between both fields of sciences.	KGG2_W01	3
04-GF-S2-1101_2	The student is able to acquire and interpret data from various sources, with special regard to electronic ones, and formulate appropriate conclusions based on them. Using theoretical knowledge and data from various sources, he/she can describe, analyze and interpret the causes and course of natural and social processes and phenomena and present them on maps.	KGG2_U03	3

3. Module description

Description	The aim of the module is to enable students to learn the basic knowledge on main methods of analysis of spatial relations of objects, phenomena and processes on the Earth's surface. They have to acquire the skill how to reach basic sources of spatial data (including electronic ones) and to obtain the basis preparedness for presentation of results on maps. The module is to ensure familiarization, in the basic scope, with various methods and modern geodetic measurements techniques. It provides knowledge about mathematical elements of maps, their geographical, geological and other specialist / thematic content, as well as methods of graphic presentation of natural, socio-economic and technical phenomena on maps. Familiarizes the student with the basics of using thematic and topographic maps, especially in digital form to obtain information about the main components of the environment with reference to an application of the methods of the Geographic Information System (GIS).
Prerequisites	

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
04-GF-	Written test	Verification of knowledge acquired by the student during lectures and independent reading of	04-GF-S2-1101_1

S2-1101_w_1		the indicated subject literature	
04-GF-S2-1101_w_2	Project	Verification of knowledge and skills based on a project made during laboratory exercises	04-GF-S2-1101_1, 04-GF-S2-1101_2

5. Forms of teaching

code	form of teaching			required hours of student's own work		assessment of the learning outcomes of the module
	type	description (including teaching methods)	number of hours	description	number of hours	
04-GF-S2-1101_fs_1	lecture	Lectures presenting methods of geodetic measurements and basic concepts in the field of cartography	10	Unassisted acquisition of knowledge in the field of geodesy and cartography and reading items that expand the thematic knowledge	40	04-GF-S2-1101_w_1
04-GF-S2-1101_fs_2	laboratory classes	Performing by the student work related to the implementation of the project including the mathematical basis of work with the map and cartographic visualization of the results	30	Preparation of necessary data, preparation to the laboratory work by following the instructions/manuals/tutorials, interpretation of laboratory results, read the literature on the subject, consultations with a tutor.	45	04-GF-S2-1101_w_2