University of Gdańsk

Subject card

Subject name and code	Astronomical Principles of Geography - lecture, PG_00199801						
Field of study	Geography						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		2.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Division of Atomic and Molecular Spectroscopy and Astrophysics -> Institute of Theoretical Physics and Astrophysics -> Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Piotr Gnaciński				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	0.0	0.0	0.0	20
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	20		2.0		28.0	50
Subject objectives	To familiarise students with the determination of geographical coordinates, time calculation, the rising and setting of celestial bodies, the seasons and the structure of the solar system.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GEOGRL3-U03] can plan and conduct, independently and as part of a team, simple research in the field of geography under the supervision of a scientific advisor, based on the necessary information from professional literature and other sources	The ability to use time calculation, astronomical and geographical coordinates to operate a rotating sky map.	[SU8] observation of student's independent or team work
[GEOGRL3-U02] can use theoretical knowledge in the field of geography and available sources of information to correctly interpret basic natural, social, economic, and political processes and phenomena	Understanding the conditions of rise and set of celestial bodies, white nights and polar days and nights.	[SU4] test/exam - oral or written
[GEOGRL3-W02] knows and understands key concepts and theories in geography, as well as advanced processes and phenomena related to spatial diversity and the distribution of processes and phenomena on the Earth's surface at various spatial scales, particularly in Poland	Knowledge of geographical coordinates, climate zones and seasons.	[SW4] test/exam - oral or written
[GEOGRL3-W04] has advanced knowledge of the Earth's geographical environment, understood as a unified system of interconnected and interacting components; its diversity, functioning, and dynamics of change, including the interaction of environmental components in the area of the South Baltic Coast and Lake District	Knowledge of phenomena occurring in the Earth's atmosphere and the impact of humans on these phenomena.	[SW4] test/exam - oral or written

Subject contents

1. Spherical coordinate systems used in astronomy and geography.
2. Elementary phenomena on the celestial sphere.
3. The influence of the Earth's atmosphere on observations of celestial bodies.
4. The annual motion of the Sun. Time calculation. Astronomical instruments.
5. Determination of latitude and longitude and time and azimuth from astronomical observations.
6. White nights, polar days and nights. Twilights and dawns.
7. The laws of planetary motion. The solar system. The Sun and its effect on the Earth.

Prerequisites and co-requisites

Knowledge of mathematics and physics at secondary school level, including trigonometric functions.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
assessment of students' individual or group work	51.0%	10.0%
exam	51.0%	90.0%

Recommended reading

Basic literature	Kreiner J., Ziemia i Wszechświat - astronomia nie tylko dla geografów, Wydawnictwo Naukowe Uniwersytetu Pedagogicznego, Kraków, 2009 Mietelski J., Astronomia w geografii, PWN, Warszawa, 2013
Supplementary literature	Rybka E., Astronomia ogólna, PWN, Warszawa, 1983
eResources addresses	

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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