University of Gdańsk

Subject card

Subject name and code	Copy Geodesy and cartography - lecture, PG_00091492		
Field of study	Water Management and Protection of Water Resources		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	undergraduate 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	2	ECTS credits	1.0
Learning profile	practical	Assessment form	
Conducting unit	Pracownia Systemów Informacji Geograficznej - GIS -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Maciej Markowski	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

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	15	5.0	10.0	30

Subject objectives

Acquisition of theoretical and practical knowledge in the field of geodesy and cartography. Learning basic techniques for performing geodetic measurements using appropriate guidelines in geodesy. Gaining knowledge in using topographic maps and the main map of the country. Familiarization with data sources from map services.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GWOZWL3-W04] research techniques, methods and tools currently used in water management and protection of water resources both in the field of natural sciences and social sciences, including basic statistical and information technology tools that make it possible to describe, model and interpret data on phenomena and processes occurring in the aquatic environment, as well as tools for describing relationships in social-ecological systems	Student knows and understands the theories, methods, and techniques for data acquisition used in geodesy and cartography, which allow for describing and examining the complex relationships present in water management and water resource protection, both in the natural and social sciences. This knowledge enables the use of basic statistical and information technology tools in processing and interpreting data related to phenomena and processes occurring in the aquatic environment, explaining the relationships within socio-ecological systems. Contents: A.1-A.10.	[SW4] test/exam - oral or written
[GWOZWL3-K05] take responsibility for the safety of their own work and that of others, dealing with emergencies, exercising caution in the laboratory and in the field, responsibility for entrusted equipment and apparatus	Student is ready to fulfill social obligations and co-organize activities for the benefit of the community. Contents: A.1-A.10.	[SK4] test/exam - oral or written

<table>
<tr><td>Subject contents</td><td>A.1 Geodesy and cartography - definitions, tasks, and classifications. Understanding the concepts of map and topography.

A.2 Shape and size of the Earth. Reference surfaces. Theory of cartographic projections.

A.3 Fundamentals of uniformity in geodetic and cartographic work in Poland.

A.4 Basic coordinate systems on the plane and in space used in geodesy and cartography. Right-handed flat rectangular coordinate system, flat polar, geographic, geodetic, and orthocartesian geocentric systems.

A.5 Field measurements. Units of measurement. Situational and elevation measurements.

A.6 National spatial reference systems used in Poland. Geodetic reference systems, flat rectangular coordinate systems, and elevation systems. Sheet division of maps in the PL-1992 and PL-2000 coordinate systems.

A.7 Elements of a geographical map. Mathematical framework, auxiliary markings, supplementary data.

A.8 Topographic maps.

A.9 Main map of the country.

A.10 Selected map services in Poland.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>exam</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>- Jagielski A., 2019/2014, Geodezja cz. I, Wyd. Geodpis, Kraków;- Jagielski A., 2014, Geodezja cz. II, Wyd. Geodpis, Kraków;

- Pasławski J. (red.), 2010, Wprowadzenie do kartografii i topografii, Wydawnictwo Nowa Era Redakcja Kartograficzna, Wrocław.

- Rozporządzenie Rady Ministrów z dnia 15 października 2012 r. w sprawie Państwowego systemu odniesień przestrzennych (Dz. U. z 14.11.2012 r., Nr 0, poz. 1247);- Ratajski L., 1989, Metodyka kartografii społeczno-gospodarczej, PPWK, Warszawa-Wrocław.</td></tr><tr><td>Supplementary literature</td><td>- Jagielski A., 2017, Rysunki geodezyjne z elementami topografii i kartografii, Wyd. Geodpis, Kraków.

- Bajkiewicz-Grabowska E., Markowski M., Lemańczyk K., 2016, Application of geoinformation techniques to determine zones of sediment resuspension induced by wind waves in lakes (using two lakes from Northern Poland as examples) , Limnological Review 1/2016.</td></tr><tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td></td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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