GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	UAV project, PG_00053259		
Field of study	Geodesy and Cartography		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2024/2025
Education level	first-cycle studies	Subject group	Optional subject group Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Paweł Burdziakowski	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	15.0	0.0	15.0	0.0	30

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	30	5.0	40.0	75

Subject objectives

The aim of the course is to teach the practical operation and piloting of survey BSPs, including the execution of survey missions.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K01] can think and act in a creative and enterprising way; is ready to define priorities for the implementation of an individual or group task; understands the need for continuous education and professional responsibility for his own and his teamt activities, and being ready to assess their own limitations, knows when to ask experts	Be able to identify the essential elements of a photogrammetric data acquisition task and perform the task correctly during fieldwork with the BSP	[SK5] Assessment of ability to solve problems that arise in practice
[K6_K02] is ready to solve problems related to the profession of geodesy and cartography engineer and to assess risks and effects of the performed activity	Knows how to analyse the problem of BSP measurement and how to estimate the risk of performing an aerial operation	[SK3] Assessment of ability to organize work
[K6_U08] can use modern measurement technologies to solve common tasks in 3D modeling	Be able to plan and execute a UAV survey flight in AUTO mode	[SU4] Assessment of ability to use methods and tools
[K6_U14] can apply the necessary skills to conduct independent work in the field of topographic surveys along with the elaborating of results, geodetic investment service, surveying and inventory measurement, photogrammetry and remote sensing, and making the maps and elaborations for legal purposes including delimitation and subdivision of real estate	Be able to perform the basic tasks of piloting a BSP in ATTI mode and perform a survey flight in ATTI mode	[SU4] Assessment of ability to use methods and tools

<table>
<tr><td>Subject contents</td><td>• Practical exercises according to the BSP flight programme.-
• Completed course and examination for A1 and A3 rating
• Valid A1 and A3 ratings
• Registered BSP pilot profile on drony.ulc.gov.pl
• Carrying out field measurements of the BSP according to the prepared preparatory documentation.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>- Registered BSP pilot profile on drony.ulc.gov.pl
- Completed course and examination for A1 and A3 ratings
- Valid A1 and A3 ratings</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>Uav flighht</td><td>80.0%</td><td>20.0%</td></tr>
<tr><td>UAV Auto flight</td><td>80.0%</td><td>30.0%</td></tr>
<tr><td>Symulator</td><td>80.0%</td><td>50.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>• https://eurodron.com.pl/dronowskaz
• drony.ulc.gov.pl
• http://edziennik.ulc.gov.pl/legalact/2021/35/
• Drony Wiktor Wyszywacz
• Opracowania fotogrametryczne z niskiego pułapu / Michał Kędzierski (red. nauk.), Anna Fryśkowska, Damian Wierzbicki.</td></tr>
<tr><td>Supplementary literature</td><td>Rozporządzenie Komisji (UE) 2019/945 z dnia 12 marca 2019 r. w sprawie bezzałogowych systemów powietrznych oraz operatorów bezzałogowych systemów powietrznych z państw trzecich

Rozporządzenie Wykonawcze Komisji (UE) 2019/947 z dnia 24 maja 2019 r. w sprawie przepisów i procedur dotyczących eksploatacji bezzałogowych statków powietrznych.</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Perform practical tasks according to the BSP training programme
Carry out the DJI type BSP measurement</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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