POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name

Applications of Unmanned Aerial Vehicle

Course

Field of study	Year/Semester
Aviation and cosmonautics	1/2
Area of study (specialization)	Profile of study
Unmanned Aerial Vehicles	general academic
Level of study	Course offered in
Second-cycle studies	polish
Form of study	Requirements
full-time	elective
	Year/Semester
	1/2
	Profile of study
	general academic
	Course offered in
	polish
	Requirements
	elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
30	0	0
Tutorials	Projects/seminars	
0	15	

Number of credit points

3

Lecturers

Responsible for the course/lecturer:	Responsible for the course/lecturer:
dr Jędrzej Łukasiewicz	Responsible for the course/lecturer:
email: jedrzej.lukasiewicz@put.poznan.pl	
tel. 61 224 45 11	
Wydział Inżynierii Lądowej i Transportu	
ul. Piotrowo 3, 60-965 Poznań	

Prerequisites

Knowledge:

The student has a basic knowledge of UAV construction, aviation law and the rules of UAV flights

Skills:

The student is able to analyze complex processes: identify and describe their component parts.

Social competences:

The student is able to cooperate in a group, assuming various roles in it. The student is able to determine the priorities important in solving the tasks set before him. The student shows independence in solving problems, gaining and improving the acquired knowledge and skills.

Course objective

To acquaint students with issues related to the applications of unmanned aerial vehicles

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Course-related learning outcomes

Knowledge

1. has detailed knowledge related to selected issues in the field of manned and unmanned aircraft construction, in the field of on-board equipment, control systems, communication and registration systems, life support systems, automation of individual systems

2. has detailed knowledge related to selected issues in the field of manned and unmanned spacecraft construction, in the field of on-board equipment, control systems, communication and recording systems, life support systems, satellite navigation systems, teletection, image recognition, automation of individual systems

Skills

1. Is able to plan and perform a flight on an unmanned aerial vehicle, taking into account the availability of airspace, terrain obstacles, UAV capabilities and the type of flight

2. Can identify the sources of threats in various areas of aircraft operation, formulate the related threats, assess the risk of threats using appropriate methods and propose ways to ensure safety

Social competence

1. understands the need for lifelong learning; can inspire and organize the learning process of other people

2. is aware of the importance and understands the non-technical aspects and effects of engineering activities, including its impact on the environment, and the related responsibility for decisions

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: exam covering the issues discussed in class.

Project: written work with a solution to a given problem

Programme content

LECTURE:

1. Application of UAV in agriculture,
2. Application of UAV in geodesy,
3. Application of UAV in search and rescue,
4. Other UAV applications

Teaching methods

Informative (conventional) lecture (providing information in a structured way) - may be of a course (introductory) or monographic (specialist) character

Bibliography

Basic

1. Mechanika lotu modeli latających – J.Staszek
2. Drony - teoria i praktyka, M.Szczepkowski, B.Bartkiewicz, P.Kruszewski

Additional

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Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	50	2,0
Student's own work (literature studies, preparation for test, project preparation) [1]	25	1,0

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[1] delete or add other activities as appropriate