



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Applications of Unmanned Aerial Vehicle [S2LiK1-BSP>OZBSP]

### Course

Field of study

Aerospace Engineering

Year/Semester

1/2

Area of study (specialization)

Unmanned Aerial Vehicles

Profile of study

general academic

Level of study

second-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

30

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

15

### Number of credit points

3,00

### Coordinators

dr Jędrzej Łukasiewicz  
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### Lecturers

### 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

### 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, teledetection, 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:

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

### Course topics

none

### 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

### Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,00
Classes requiring direct contact with the teacher	50	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	25	1,00