



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Flight planning

### Course

Field of study

Aerospace Engineering

Area of study (specialization)

Unmanned Aerial Vehicles

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

1/1

Profile of study

general academic

Course offered in

Polish

Requirements

elective

### Number of hours

Lecture

30

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

### Number of credit points

2

### Lecturers

Responsible for the course/lecturer:

dr inż. Marta Galant-Gołębiowska

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Zakład Lotnictwa

Wydział Inżynierii Lądowej i Transportu

Responsible for the course/lecturer:

### Prerequisites

Knowledge: Basic knowledge of physics, mathematics and chemistry.

Skills: The ability to effectively self-study.

Social competences: Is aware of the social role of the engineer. He is willing to expand his competences. He can work in a team.

### Course objective

Getting to know the principles of planning unmanned aircraft flights.

### Course-related learning outcomes

Knowledge



1. He has extended knowledge of the construction, piloting and possibilities of using unmanned aerial vehicles in various areas of human activity.
2. He knows the rules of unmanned flights and the provisions of aviation law in force in Poland and Europe.

#### Skills

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

1. Understands the need for lifelong learning; can inspire and organize the learning process of other people.
2. Is able to properly define priorities for the implementation of a task set by himself or others.
3. Correctly identifies and resolves dilemmas related to the profession.

#### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: written credit covering the issues discussed in the lecture

#### Programme content

1. Discussion of the principles of flight planning, including the definition of sources and types of threats that may affect the safety of the flight, determination and preparation of the place of take-off and landing, development of emergency procedures for the planned flights.
2. Planning of a flight route for the purposes of flight operations. Overview of planning principles, including programming of autopilots for the implementation of photogrammetric tasks depending on the measurement object, terrain, UAV equipment capabilities.
3. Planning of VFR, IFR, UAV flights
4. ICAO flight plan

#### Teaching methods

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

#### Bibliography

Basic



1. Flight Planning & Monitoring - EASA | Aviationexam, wyd. Jeppsen
2. Osiągi, wyważenie i planowanie lotu szkolenie EASA, wyd. Pileus
3. Drony. Wydanie II rozszerzone. Wiktor Wyszywacz, 2020

Additional

### Breakdown of average student's workload

	Hours	ECTS
Total workload	55	2,0
Classes requiring direct contact with the teacher	35	1,0
Student's own work (literature studies, preparation for exam) <sup>1</sup>	20	1,0

<sup>1</sup> delete or add other activities as appropriate