



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Management of unmanned aerial vehicles missions

Course

Field of study

Aviation

Area of study (specialization)

Unmanned aerial vehicles

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3/6

Profile of study

Course offered in

Polish

Requirements

Number of hours

Lecture

30

Laboratory classes

0

Other (e.g. online)

0

Tutorials

15

Projects/seminars

0

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

dr Jędrzej Łukasiewicz

jedrzej.lukasiewicz@put.poznan.pl

Wydział Inżynierii Lądowej i Transportu

ul. Piotrowo 3, 60-965 Poznań

Prerequisites

Knowledge:

1. Basics of mathematics, chemistry and physics.

Skills:

1. Using literature (textbooks, internet), the ability to perceive lecture content.

Social competences:

1. Awareness of the need to deepen engineering knowledge and its place in everyday life

Course objective



Getting acquainted with the issues of managing UAV missions

Course-related learning outcomes

Knowledge

1. has ordered, theoretically founded general knowledge in the field of technology and various means of air transport, about the life cycle of means of transport, both hardware and software, and in particular about the key processes taking place in them
2. 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 recording systems, automation of individual systems, has basic knowledge of flight simulation training devices and simulation methods used to solve air transport issues
3. has detailed knowledge related to selected issues in the field of navigation, flight mechanics and piloting techniques, the use of simulators, flight rules, its preparation, and related operating procedures

Skills

1. can see legal aspects in the process of formulating and solving tasks in air transport, in particular, use the aspects of European and national aviation law regulations
2. can analyze the strategies of enterprises and interpret their activities, and can use in practice the basic tools of strategic analysis
3. is able to estimate various types of costs, is able to verify and assess market phenomena, is able to assess the factors of economic growth and the importance of money for its development, is able to decide about economic choices in the field of consumption and production

Social competences

1. understands that in technology, knowledge and skills very quickly become obsolete
2. is aware of the importance of knowledge in solving engineering problems and knows examples and understands the causes of faulty engineering projects that have led to serious financial and social losses, or to a serious loss of health and even life
3. correctly identifies and resolves dilemmas related to the profession of an aerospace engineer

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: written exam;

Exercises: written exam;

Programme content

1. airspace management at the global, European and Polish levels;
2. aviation law regulations regarding UAVs;
3. preparation of the UAV for flight;



4. obtaining permits to fly;
5. pre-take-off procedures, in-flight procedures, post-landing procedures, emergency procedures.

Teaching methods

Lecture: informative (conventional), information transfer in a systematic way

Exercises: solving the problems indicated by the teacher

Bibliography

Basic

1. Drony dla początkujących, Terry Kilby, Belinda Kilby,
2. Drony, Wiktor Wyszywacz,
3. Ustawa Prawo lotnicze,
4. Rozporządzenie wykonawcze UE 2019/947 oraz 2019/945,
5. Wytyczne nr 7 Prezesa Urzędu Lotnictwa Cywilnego z 2021 r.

Additional

1. Pilecki S. Lotnictwo i kosmonautyka, WKL, Warszawa 1984.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	45	1,5
Student's own work (literature studies, preparation for classes, preparation for tests,) ¹	5	0,5

¹ delete or add other activities as appropriate