



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Construction of an unmanned aerial vehicle

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

4/7

Profile of study

general academic

Course offered in

Polish

Requirements

Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

30

Number of credit points

4

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 to know the basic structure of UAVs

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 ordered and theoretically founded general knowledge in the field of key technical issues and detailed knowledge of selected issues related to air transport, knows the basic techniques, methods and tools used in the process of solving tasks related to air transport, mainly of an engineering nature
3. has ordered, theoretically founded general knowledge covering key issues in the field of technical thermodynamics, fluid mechanics, in particular aerodynamics

Skills

1. is able to obtain information from various sources, including literature and databases, both in Polish and in English, integrate them properly, interpret them and make a critical evaluation, draw conclusions and exhaustively justify the opinions they formulate
2. is able to properly use information and communication techniques, applicable at various stages of the implementation of aviation projects
3. can solve tasks using the rules of air traffic and design a runway in accordance with the applicable ICAO requirements
4. 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. is able to think and act in an entrepreneurial way, incl. finding commercial applications for the created system, bearing in mind not only the business benefits, but also the social benefits of the activity

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Project

Assessment of the implemented project on the basis of a report on the course of individual phases of its implementation. Additionally, activity during classes will be rewarded.



Programme content

Teaching methods

Project method (individual or team implementation of a large, multi-stage cognitive or practical task, the effect of which is the creation of a work)

Bibliography

Basic

1. Drony dla początkujących, Terry Kilby, Belinda Kilby,
2. Drony, Wiktor Wyszywacz,
3. Rozporządzenie wykonawcze UE 2019/945

Additional

1. S. Danilecki: Projektowanie samolotów, Wojskowa Akademia Techniczna, Warszawa 2018.
2. W. Brusow: Optymalne projektowanie wielozadaniowych obiektów latających, Biblioteka Naukowa Instytutu Lotnictwa. Warszawa 2006.
3. R. Cymerkiewicz, Budowa Samolotów, Wydawnictwa Komunikacji i Łączności 1982.-

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	30	1,5
Student's own work (literature studies, preparation for classes, preparation for tests,) ¹	70	2,5

¹ delete or add other activities as appropriate