



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Construction of aircraft fuselages

Course

Field of study

Aviation

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3/5

Profile of study

general academic

Course offered in

Polish

Requirements

elective

Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

15

Projects/seminars

30

Number of credit points

4

Lecturers

Responsible for the course/lecturer:

dr inż. Krzysztof Kotecki

krzysztof.kotecki@put.poznan.pl

tel. 61 665 2101

Wydział Inżynierii Mechanicznej

ul. Piotrowo 2, 60-965 Poznań

Responsible for the course/lecturer:

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tel. 61 665 21 67

Wydział Inżynierii Mechanicznej

ul. Piotrowo 2, 60-965 Poznań

Prerequisites

Knowledge: Basic knowledge of mathematical analysis, strength of materials, basics of machine construction.

Skills: Have basic skills in using software supporting design, as well as efficiently obtain additional information from various sources.

Social competence: understands the need to improve one's qualifications and is ready to work in a team.

Course objective

Familiarization with loads and construction of selected types of airframes.



Course-related learning outcomes

Knowledge

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

has ordered, theoretically founded general knowledge covering key issues in the field of technical thermodynamics, fluid mechanics, in particular aerodynamics

has an ordered, theoretically founded knowledge in the field of engineering graphics and machine construction: technical drawing, object projection, basic principles of engineering graphics, the use of CAD (Computer Aided Design) graphic programs in the construction of machines

Skills

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

is able to properly plan and perform experiments, including measurements and computer simulations, interpret the obtained results, and correctly draw conclusions from them

can, when formulating and solving tasks related to civil aviation, apply appropriately selected methods, including analytical, simulation or experimental methods

Social competences

understands that in technology, knowledge and skills very quickly become obsolete

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

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:

Lecture

Assessment of knowledge and skills demonstrated in a written test of a test and accounting nature (the written test sheet contains information necessary to perform accounting tasks). Test passing threshold 50%. Rewarding grades from laboratory classes as well as attendance and activity during the lecture.

Exercises

Final colloquium and partial colloquium.

Project



Evaluation of the project on the basis of a report on the course of individual stages of its implementation. In addition, activity in class will be rewarded.

Programme content

1. Requirements for fuselages of modern aircraft
2. Types of hull structures
3. Aircraft cabins and their construction
4. Placement of engines in the aircraft
5. Attaching the engines to the airframe

Teaching methods

Information lecture (conventional) (transmission of information in a systematic way) - can be of a course (propedeutic) or monographic (specialist) nature

Exercise method (subject exercises, exercises) - in the form of auditorium exercises (application of acquired knowledge in practice - can take various forms: solving cognitive tasks or training psychomotor skills; transforming a conscious activity into a habit through repetition)

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. S. Danilecki: Projektowanie samolotów, Wojskowa Akademia Techniczna, Warszawa 2018.
3. W. Brusow: Optymalne projektowanie wielozadaniowych obiektów latających, Biblioteka Naukowa Instytutu Lotnictwa. Warszawa 2006.

Additional

1. 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	60	2,5
Student's own work (literature studies, preparation for classes, preparation for tests,) ¹	40	1,5

¹ delete or add other activities as appropriate