



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Transition thesis [S1Lot2-SLiPL>PPrzej]

Course

Field of study

Aviation

Year/Semester

3/6

Area of study (specialization)

Aircraft Engines and Airframes

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

elective

Number of hours

Lecture

0

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

4

Number of credit points

5,00

Coordinators

dr inż. Łukasz Brodzik

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Lecturers

Prerequisites

Has basic knowledge of aircraft construction, flight mechanics and aerodynamics, as well as materials used. He can perform basic mathematical calculations in the field of algebra and calculus. Can independently search and integrate information found in the literature.

Course objective

The aim of the subject is to analyse a component or element of an airframe, including determining its essential parameters.

Course-related learning outcomes

Knowledge:

of differential equations, probability, analytical geometry as well as physics including the basics of classical mechanics, optics, electricity and magnetism, solid state physics, thermodynamics, useful for formulating and solving complex technical tasks related to aeronautical engineering and modeling 2. has structured and theoretically based general knowledge of key issues of technology and detailed knowledge of selected issues related to air transport, knows basic techniques, methods and tools used in the process of solving tasks related to air transport, mainly of an engineering nature 3. has the ability to self-educate using

modern teaching tools, such as remote lectures, Internet sites and databases, teaching programs, e-books

Skills:

Polish and English, using appropriate integrate, interpret and critically assessments, draw conclusions, and fully justify their opinions 2. is able to use information and communication techniques appropriately application at various stages of implementation of aviation projects 3. can properly plan and perform experiments, including measurements and simulations computer, interpret the obtained results and correctly draw conclusions from them conclusions 4. is able to apply appropriately when formulating and solving tasks related to civil aviation selected methods, including analytical, simulation or experimental methods 5. can solve tasks using air traffic rules and design a runway in accordance with applicable ICAO requirements 6. the student knows how to use theoretical probability distributions. The student is able to analyze and interpret statistical data. The student is able to use methods and tools of mathematical statistics in engineering practice 7. is able to prepare a short scientific paper, observing basic editorial principles. Is able to select appropriate methods for the research being carried out and is able to conduct a basic analysis of the results 8. is able to organize, cooperate and work in a group, assuming different roles in it and is able to appropriately determine priorities for the implementation of a task specified by himself or others 9. is able to plan and implement the process of his own permanent learning and knows the possibilities of further education (2nd and 3rd degree studies, postgraduate studies, courses and exams conducted by universities, companies and professional organizations)

Social competences:

2. is aware of the importance of knowledge in solving engineering problems and knows examples and understands the causes of malfunctioning engineering projects that have led to serious financial, social losses or serious loss of health or even life 3. is aware of the social role of a graduate of a technical university, in particular understands the need to formulate and communicate to society, in an appropriate form, information and opinions concerning engineering activities, technical achievements, as well as the achievements and traditions of the profession engineer 4. 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:

none

Programme content

Descriptive or computational analysis of phenomena or technical issues related to aircraft. The calculations mainly concern the analysis of fluid and heat flow as well as the strength of materials of selected working areas during aircraft operations.

Course topics

The intermediate thesis is a preparation for the diploma thesis covering issues related to aircraft design elements, flight mechanics, aerodynamics, parameters of aircraft engines and their components in terms of flow, heat transfer, as well as other aviation-related analyses.

Teaching methods

Consultations

Bibliography

Basic:

Literature is selected depending on the chosen topic of the work.

Supplementary

Any literature in Polish and English

Additional:

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Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,00
Classes requiring direct contact with the teacher	10	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	115	4,00