



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Theory of aircraft engines

Course

Field of study

Aerospace Engineering

Area of study (specialization)

Onboard systems and aircraft propulsion

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

compulsory

Number of hours

Lecture

15

Laboratory classes

Other (e.g. online)

Tutorials

15

Projects/seminars

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

dr inż. Bartosz Ziegler

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tel.6652344

Responsible for the course/lecturer:

Prerequisites

Learning outputs from Theory of aircraft engines - part 1

Course objective

Learn the principles of operation of the basic types of aircraft propulsion

Course-related learning outcomes

Knowledge

has detailed knowledge related to selected issues in the field of construction of aircraft propulsion systems and design of their components

has ordered, theoretically founded general knowledge covering key issues in the field of technical thermodynamics, i.e. the theory of thermodynamic transformations, heat flow, heat and cooling machines



ma podstawową wiedzę na temat podstawowych procesów zachodzących w cyklu życia urządzeń, obiektów i systemów technicznych, a także ich technicznego opisu w dziedzinie inżynierii lotniczej

Skills

can obtain information from literature, the Internet, databases and other sources. Is able to integrate obtained information, interpret and draw conclusions from them

can create a description of the principle of operation of a simple machine or its components from the group of machines covered by the selected specialty

can use formulas and tables, technical and economic calculations using a spreadsheet and run a simple relational database

Social competences

can properly prioritize the implementation of tasks specified by him or others based on available knowledge

Understands the need for critical assessment of knowledge and continuous learning

is aware of the importance and understands the non-technical aspects and effects of engineering activities, including its impact on the environment, and the associated responsibility for the decisions taken

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Written test for both lecture and tutorials.

Programme content

Operation of aircraft engines beyond the design point. Problems of control and flow stability of components. Afterburners - theory and change of engine operating parameters. Propeller theory

Teaching methods

Auditorial lecture and tutorials

Bibliography

Basic

1. Dzierżanowski P. „Turbinowe silniki odrzutowe”, Wydawnictwa Komunikacji i Łączności

Additional



Breakdown of average student's workload

	Hours	ECTS
Total workload	49	2,0
Classes requiring direct contact with the teacher	34	1,5
Student's own work (literature studies, tutorial preparation) ¹	15	0,5

¹ delete or add other activities as appropriate