COURSE DESCRIPTION CARD - SYLLABUS

Course name

Fuels and lubricants

Course

Field of study

Aerospace Engineering

Year/Semester

3/5

Area of study (specialization)

Aircraft engines and airframes

Profile of study

general academic

Level of study

First-cycle studies

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

15

Other (e.g. online)

Tutorials

Projects/seminars

Number of credit points

3

Lecturers

Responsible for the course/lecturer:

prof. Wiesław Zwierzycki

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tel.: 61 6652237

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Responsible for the course/lecturer:

PhD Łukasz Wojciechowski

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Prerequisites

Has knowledge about the construction and preparation of fuels, oils, greases (and specialized liquids) in aerial technology

Course objective

Understanding the basics of building, obtaining, properties and use of aerial fuels and lubricants

Course-related learning outcomes

Knowledge

1. Has knowledge about the construction and preparation of fuels, oils, greases (and specialized liquids) in aerial technology -

2. Has knowledge about the aging of oils and greases in aerial technique and methods of diagnosing their condition -

3. Has basic knowledge of measurement methods for fuels and lubricants

Skills

1. Is able to use technical terminology

2. Can draw conclusions from the results of experimental research on lubricants and aerial fuels

3. Is able to analyze technical solutions in the field of aerial lubricants and fuels

Social competences

1. Is aware of the importance of maintaining the principles of professional ethics

2. Understands the impact of burning fuels and lubricants on the environment

3. Is aware of the importance of the collection and management of used lubricants in aerial technology.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Written and oral exam

Programme content

Construction and production of lubricants and fuels.

Lubricants and fuels for the automotive and industry.

Motor fuels (automotive and aviation).

Warehousing and distribution of motor fuels.

Research on aerial fuels and lubricants.

Fuel and lubricant diagnosis systems.

Fuels and lubricants for aircrafts.

PART - 66 (THEORY - 11.25 hours, PRACTICE - 11.25 hours)

MODULE 16. PISTON ENGINE

16.8 Lubricants and fuels

Properties and specifications;

Fuel additives;

Precautions. [2]

Teaching methods

Bibliography

Basic

1. Górska K., Górski W., Napędy lotnicze. Materiały pędne i smary, Wydawnictwo Komunikacji i łączności, Warszawa - 1986

2. Zwierzycki W., Płyny eksploatacyjne do środków transportu drogowego, Wydawnictwo Politechniki Poznańskiej, Poznań - 2006

3. Czarny R., Smary plastyczne, Wyd. NT, Warszawa 2004

Additional

Breakdown of average student's workload

	Hours	ECTS
Total workload	80	3,0
Classes requiring direct contact with the teacher	46	2,0
Student's own work (literature studies, preparation for laboratory classes, preparation for tests [1]	34	1,0

[1] delete or add other activities as appropriate