COURSE DESCRIPTION CARD - SYLLABUS

Course name

Fundamentals of Working Machines Exploitation

Course

Field of study	Year/Semester
Construction and Exploatation of Means of Transport	1/1
Area of study (specialization)	Profile of study
Machines	general academic
Level of study	Course offered in
Second-cycle studies	Polish
Form of study	Requirements
part-time	compulsory

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
18	0	0
Tutorials	Projects/seminars	
0	0	

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

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Faculty of Civil and Transport Engineering

ul. Piotrowo 3, 60-965 Poznan

Responsible for the course/lecturer:

Prerequisites

KNOWLEDGE: the student has basic knowledge about the construction of the surrounding world and the laws that govern it

SKILLS: the student is able to integrate the obtained information, interpret it, draw conclusions, formulate and justify opinions

SOCIAL COMPETENCES: the student is aware of the social and economic importance of environmental protection

Course objective

Understanding the basic processes of using and refurbishing working machines in terms of maximizing their production use.

Course-related learning outcomes

Knowledge

Has knowledge of the principles of safety and ergonomics in the design and operation of machines and the threats that machines pose to the natural environment

Has general knowledge in the field of standardization, EU recommendations and directives, systems of national, industry and international standards, and industrial standards

Has extended knowledge of the standards for working machines in the field of methods of calculating and testing machines, safety, including road safety, environmental protection as well as mechanical and electrical interface

Skills

He can estimate the potential threats to the environment and people from the designed working machine and vehicle from a selected group

Can communicate on specialist topics with a diverse audience

Can conduct a debate

Can interact with other people as part of teamwork and take a leading role in teams

Is able to independently plan and implement his own learning throughout life and direct others in this regard

Social competences

He is ready to critically assess his knowledge and received content

He is ready to fulfill social obligations, inspire and organize activities for the social environment

It is ready to initiate actions for the public interest

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Assessment of discussions and activity during classes. Passing the written exam.

Programme content

Operation processes of working machines. Operational properties of machine elements and their surfaces. Processes of wear of working machines and their elements. Issues related to the use of working machines. Elements of technical diagnostics. Processes of refurbishment of technical facilities.

Teaching methods

1. Lectures with multimedia presentation

2. Materials to help in the implementation of lectures in the form of pdf, video or presentation

Bibliography

Basic

1. Legutko S. (2004): Podstawy eksploatacji maszyn i urządzeń roboczych. Wyd. WSIP

2. Dwiliński L. (2006): Podstawy eksploatacji obiektu technicznego. Wyd. Oficyna Wydawnicza Politechniki Warszawskiej

3. Napiórkowski J., Drożyner P., Mikołajczak P., Rychlik A., Szczyglak P., Ligier K. (2013): Podstawy budowy i eksploatacji pojazdów i maszyn. Wyd. Uniwersytet Warmińsko-Mazurski

Additional

1. Buchwald, T., & Staszak, Ż. (2013). Analiza realizacji przeglądów technicznych ciągników rolniczych. Inżynieria Rolnicza, 17.

2. Buchwald, T., & Staszak, Ż. (2013). Comparative analysis of the selected processes of the technical service of agricultural machines. Agricultural Engineering, 3(145), 9-16.

3. Rzeznik, C., Rybacki, P., Staszak, Z., & Durczak, K. (2012). Parametry wyjściowe procesu diagnozowania ciągnika rolniczego. Technika Rolnicza Ogrodnicza Leśna, (04).

4. Staszak, Ż., & Buchwald, T. (2015). Ocena informacji uzyskanej podczas diagnostyki ciągnika rolniczego. Nauka Przyroda Technologie, 9(2), 26.

5. Grześ, Z., Rybacki, P., & Rzeźnik, C. Problemy serwisu technicznego maszyn rolniczych. Nauka Przyroda Technologie, 11(1), 9.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	18	1,0
Student's own work (literature studies, preparation for exam) [1]	32	1,0

[1] delete or add other activities as appropriate