COURSE DESCRIPTION CARD - SYLLABUS

Course name
Machine Directives

Course

Field of study
Construction and Exploitation of Means of Transport

Year/Semester
2/3

Area of study (specialization)
Industrial mechatronics

Profile of study
general academic

Level of study
Second-cycle studies

Course offered in
polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
30

Laboratory classes
0

Other (e.g. online)
0

Tutorials
0

Projects/seminars
0

Number of credit points

2

Lecturers

Responsible for the course/lecturer:
DSc Eng. Krzysztof Talaśka

email: krzysztof.talaska@put.poznan.pl

phone: 61 665 2246

Faculty of Mechanical Engineering

ul. Piotrowo 3, 61-138 Poznań

Responsible for the course/lecturer:
MSc Eng. Dominik Wojtkowiak

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phone: 61 665 2053

Faculty of Mechanical Engineering

ul. Piotrowo 3, 61-138 Poznań

Prerequisites

Knowledge: Knowledge requirements concern the scope of machine building and the machine design process.

Skills: The student has the ability to solve problems with the basics of machine design based on the knowledge and the ability to obtain information from the indicated sources.

Social competences: The student understands the need to expand his competences, shows readiness to cooperate within the team.

Course objective

The aim of the course is to familiarize students with the applicable machine directives that should be

taken into account in the process of designing machines and devices. The emphasis is primarily on the practical application of the applicable directives, which will allow students to develop the skills of a conscious process of machine construction.

Course-related learning outcomes

Knowledge

1. Has general knowledge of standardization, EU recommendations and directives, national, industry and international standards systems, and industrial standards

2. 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

3. 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

1. Can estimate the potential threats to the environment and people from the designed working machine and vehicle from a selected group

2. Is able to write a user manual and a safety manual for a designed work machine or vehicle from a group of machines selected within the specialty

3. Can develop a technical description as well as offer and design documentation for a complex machine from a selected group of machines

4. Can design safe machines adapted to the applicable machine directives

Social competences

1. Is ready to critically assess the knowledge and content received

2. Is ready to recognize the importance of knowledge in solving cognitive and practical problems and to consult experts in the event of difficulties in solving the problem on its own

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Grade on the basis of individual final work.

Programme content

Machine safety assessment and certificates. Machinery Directive 2006/42/EC. CE certificate and marking of conformity. Electromagnetic Compatibility. Low Voltage Directive LVD 2006/95/EC.

Teaching methods

Informative lecture with a multimedia presentation, using the case study method - analysis of solutions to real construction problems. Practical use of the skills acquired during the classes in the implementation of individual final work by the student - project method.

Bibliography

Basic

1. Text of machine directive 2006/42/WE.

2. Text of directive 2009/127/WE

3. Text of low-voltage directive LVD 2006/95/WE

4. Text of directive 2014/35/UE

5. Text of directive EMC 2004/108/WE (electromagnetic compatibility).

6. Text of directive 2014/30/UE

Additional

Literature in the field of specialization and subject matter of the final work.

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	30	1,0

[1] delete or add other activities as appropriate