COURSE DESCRIPTION CARD - SYLLABUS

Course name
Methodology of constructing working machines [S1MiBP1>MKMR]

Course

Field of study
Mechanical and Automotive Engineering

Year/Semester
4/7

Area of study (specialization)
–

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
45

Laboratory classes
15

Other
0

Tutorials
15

Projects/seminars
0

Number of credit points

5,00

Coordinators

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Lecturers

Prerequisites

Knowledge: Has basic knowledge of the construction and operation of working machines Skills: Can use office software and basic CAD software Social competences: Has basic communication skills and teamwork

Course objective

Systematizing general knowledge about construction and practicing how to use it to solve construction tasks on specific examples from working machines.

Course-related learning outcomes

Knowledge:
Has basic knowledge of the basics of machine design and the theory of machines and mechanisms, including mechanical vibrations.
Has elementary knowledge of the life cycle of machinery, recycling of machine elements and construction and consumables.
Has basic knowledge of law, in particular security, copyright and security law, industrial property and its influence on the development of technology.

Skills:
Can perform basic functional and strength calculations of machine elements such as traction, gear, friction, bearings, rolling and sliding gears, clutches, brakes.
Can perform strength calculations of simple frames and load-bearing structures of machines using elementary strength theories.
Can prepare a technical descriptive and drawing documentation of an engineering task.

Social competences:
Is ready to recognize the importance of knowledge in solving cognitive and practical problems and to consult experts in case of difficulties in solving the problem on its own.
Is ready to fulfill social obligations and co-organize activities for the benefit of the social environment.
Is willing to think and act in an entrepreneurial manner.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Written exam consisting of a set of descriptive questions, a credit for classes, a project for laboratory classes

Programme content

Design strategies. Ways of reaching solutions to structural problems. Cardinal and specific design principles, the structure of a typical design process. The course of the construction process - constructor"s tasks. Basic construction evaluation criteria.

Course topics

none

Teaching methods

1. Lecture with multimedia presentation
2. Eternals- solving problems
3.Laboratories - project

Bibliography

Basic
1. Dietrich M. i inni: Podstawy konstrukcji maszyn t. I, PWN Warszawa 1986
2. Dziama A.: Metodyka konstruowania maszyn, PWN, Warszawa, 1985
3. Osinski Z., Wróbel J.: Teoria konstrukcji maszyn, PWN Warszawa 1982.
Additional
1. Tarnowski W. Optymalizacja i polioptymalizacja w technice, Koszalin, 2011
2. Praca Zbiorowa red. Jan Szlagowski. Automatyzacja pracy maszyn roboczych. Metodyka i zastosowani

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,00
Classes requiring direct contact with the teacher	75	3,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	50	2,00