POZNAN UNIVERSITY OF TECHNOLOGY

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Passing project

Course

Field of study	Year/Semester
Mechatronics	1 / 2
Area of study (specialization)	Profile of study
Design and control of mechatronic devices	general academic
Level of study	Course offered in
Second-cycle studies	Polish
Form of study	Requirements
full-time	elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
Tutorials	Projects/seminars	
	45	

Number of credit points

4

Lecturers

Responsible for the course/lecturer:	Responsible for the course/lecturer:
Dr. Ing. Adam Myszkowski	
email: adam.myszkowski@put.poznan.pl	
phone: 61 665 24 52	
Faculty of Mechanical Engineering	
room 616	
Piotrowo 3	
60-965 Poznań	

POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

Prerequisites

1) Knowledge of technical drawing, engineering mechanics, material strength, materials science, technological process design, selection of machinery and equipment.

2) Ability to think logically and to obtain information from literature and online resources.

3) Understand the need for self-study, acquiring new knowledge and skills.

Course objective

Expansion of knowledge in the field of design of technological lines and selection of machines and plants. Consolidate your application skills to perform engineering calculations. Acquiring the ability to design technological strings independently, directing the work of design teams.

Course-related learning outcomes

Knowledge

Detailed machine and plant knowledge with typical components and assemblies, development trends of machines and plants as well as production technologies with a special focus on mechanics.

Skills

Conceptual work, analysis of kinematic structures, mapping and dimensioning of machines, design and execution of strength calculations of mechanical systems using computer-aided machine design.

Social competences

Collaboration and work in a group, taking on different roles and tasks. Ability to map and measure machine parts; Design and execution of strength calculations of mechanical systems using computer support of machine design.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

 The following shall be assessed:

1) an editing prepared by the student which contains a solution to the problem presented to him in the field of planning and automation;

2) Speeches presenting the results of each step.

The final evaluation is the weighted average for the written preparation and the contributions.

Programme content

1) Design and selection of machinery and equipment,

2) Requirements and restrictions on machinery and equipment,

3) The basic principles of the design, with particular regard to safety during the operation of the machinery;

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4) Reliability of the design,

5) The economic and environmental aspects of the design;

6) Indicate areas of acceptable solutions, and effective solutions to the problem.

Teaching methods

Presentation, problem solving, discussion, teamwork, consulting.

Bibliography

Basic

1. Dobrzański T., Rysunek techniczny maszynowy, WNT, Warszawa 2005.

 2. Automatyzacja obrabiarek i obróbki skrawaniem, J. Kosmol, WNT, Warszawa 2000.

3. Sempruch J., Piątkowski T., Podstawy konstrukcji maszyn z CAD, Piła, Państwowa Wyższa Szkołązawodowa w Pile, 2006,

4. Kosmol J., Automatyzacja obrabiarek i obróbki skrawaniem, PWN, Warszawa, 2000.

Additional

1. Catalogues of machine component manufacturers.

2. Websites of machine and plant manufacturers.

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	45	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	55	2,0

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[1] delete or add other activities as appropriate